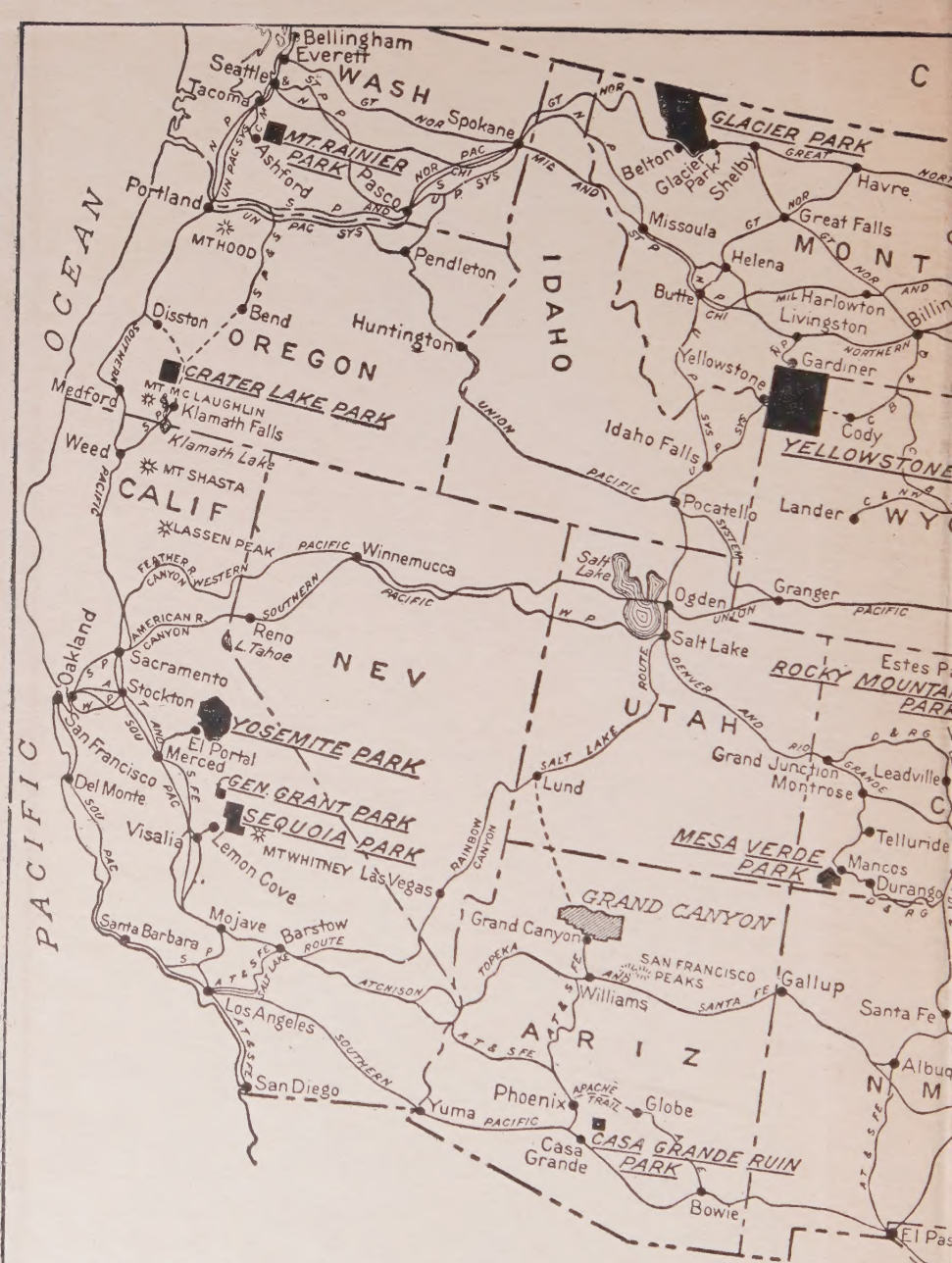
A TOUR OF AMERICA'S NATIONAL PARKS

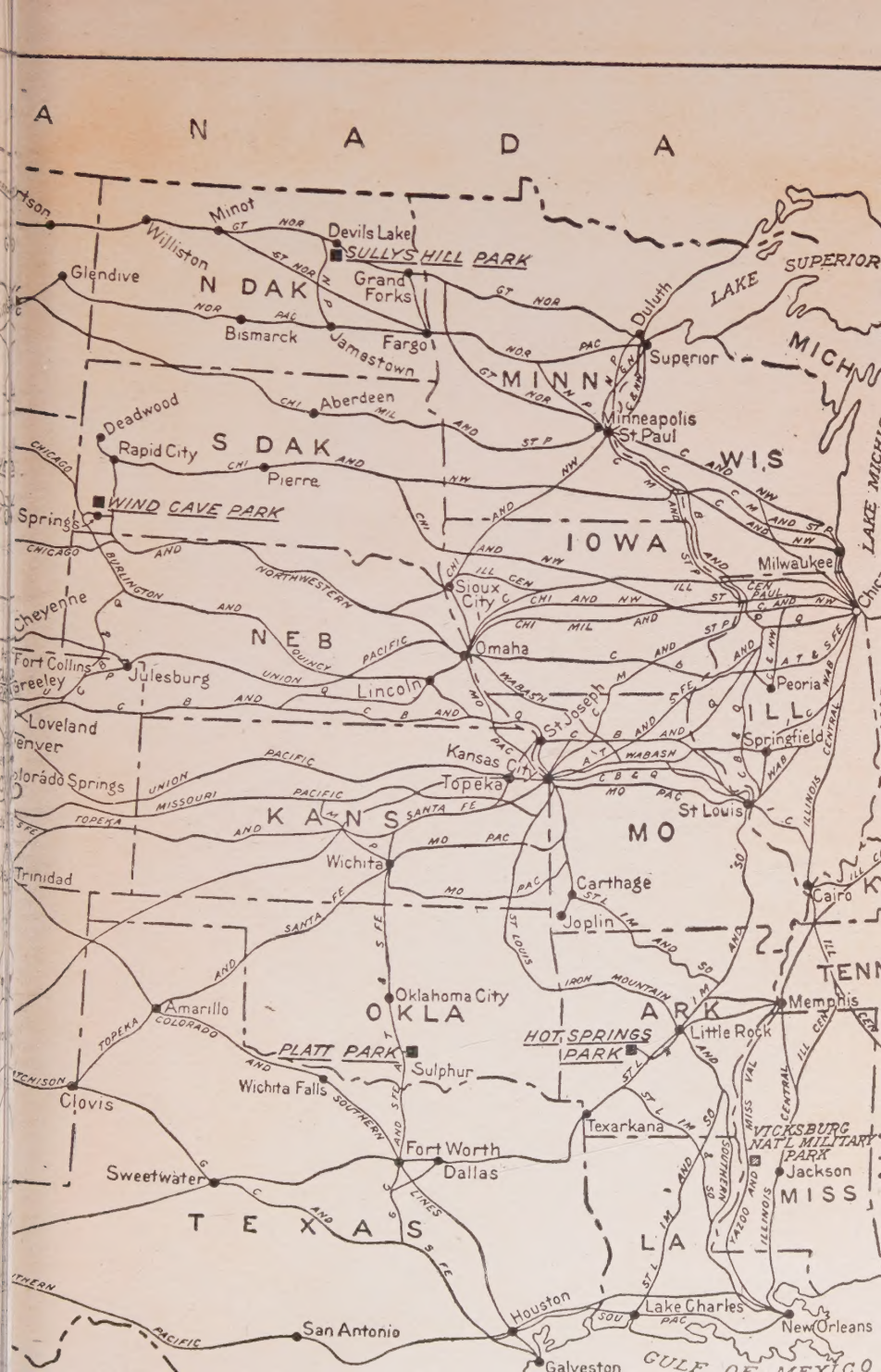
HENRY OTTRIDGE REIK



NATIONAL PARKS

AND

PRINCIPAL RAILROAD CONNECTIONS


CANADA
Minot
Devils Lake
SULLYS HILL PARK
Williston
Glendive
N DAK
Grand Forks
Bismarck
Jamestown
Fargo
Duluth
LAKE SUPERIOR
Superior
MINN
Minneapolis
St Paul
Deadwood
Aberdeen
Rapid City
S DAK
Pierre
WIS
WIND CAVE PARK
Springs
IOWA
Milwaukee
Sioux City
Cheyenne
NEB
Omaha
Fort Collins
Greeley
Julesburg
Lincoln
Peoria
Loveland
Denver
St Joseph
ILL
Springfield
Kansas City
Topeka
Colorado Springs
St Louis
KANS
MO
Trinidad
Wichita
Carthage
Cairo
Joplin
Oklahoma City
OKLA
Amarillo
ARK
Memphis
HOT SPRINGS PARK
Little Rock
PLATT PARK
Sulphur
Clovis
Wichita Falls
Texarkana
Fort Worth
Dallas
Sweetwater
Jackson
MISS
TEXAS
LA
Houston
Lake Charles
New Orleans
San Antonio
Galveston
GULF OF MEXICO

Digitized by the Internet Archive
in 2025

https://archive.org/details/bwb_W9-DDL-307

A TOUR OF AMERICA'S NATIONAL PARKS

(*From an Autochrome taken by the Author*)

Early Morning at
Going-to-the-Sun Chalet

A Tour of America's National Parks

By
HENRY OTTRIDGE REIK
Lt.-Col. Medical Reserve Corps, United States Army

With Illustrations from Photographs

NEW YORK
E. P. DUTTON & CO.
681 FIFTH AVENUE

Copyright 1920
By E. P. Dutton & Company

All Rights Reserved

Printed in the United
States of America

Dedicated to

STEPHEN T. MATHER
HORACE M. ALBRIGHT
ROBERT S. YARD

Who,
Under instructions from the
HON. FRANKLIN K. LANE,
Secretary of the Interior,
Are striving to make American Scenery
available to the People

PREFACE

THE purpose of this book is to attract a more wide-spread attention to the wonderful natural beauty of our own country; to point out the possibilities of a "Grand Tour," here at home, that shall embrace more of scenic beauty and more marvelous natural phenomena than was ever included in a "Grand Tour of Europe"; to make clear to those who have but a limited vacation period what is to be seen in the different Parks, and how best to see it. It is not a Guide Book in the ordinary sense, yet it is intended to serve as such; for it not only indicates the proper procedure for making the "Grand Tour," but presents specific information about the most important things to see and the order in which they should be seen in each individual Park.

The United States of America possesses the most remarkable series of public play-grounds in all the world. These, the so-called National

Parks, are maintained "For The Benefit And Enjoyment Of The People." No two of these parks are alike. They are not comparable. In fact, they scarcely resemble one another at all. Each is possessed of some characteristic feature that makes it individually worth seeing. Every citizen should become intimately acquainted with as many of them as his time and purse will permit and every one may feel well assured in advance that he will be fully repaid for the labor and expense involved in visiting either of these Parks.

HENRY O. REIK.

CONTENTS

Poem: *Out Among the Big Things.*

Chapter

I. Plans for the Grand Tour of Our National Parks.

II. The Rocky Mountain National Park; Including Estes Park and the Parks in and about Denver.

III. Mesa Verde National Park; Home of the Cliff Dwellers.

IV. The Grand Canyon of Arizona; with Incidental Visits to the Old Indian Pueblos of New Mexico and the Petrified Forest.

V. Sequoia National Park; the Prospects of a New Park that Shall Excel Some of the Best Now Developed.

VI. Yosemite Valley; the Region of World-Famed Beauty.

VII. Crater Lake National Park; an Extraordinary Lake Occupying the Crater of an Extinct Volcano and Whose Water Is of an Unbelievable Blue.

VIII. Mt. Rainier National Park. "The Mountain That Was God."

CONTENTS

IX. Glacier National Park. Rugged Mountain Scenery of Alpine Character, with Innumerable Active Glaciers.

X. Yellowstone National Park. A Veritable Fairyland. More Geysers Than in All the Rest of the World Together; Beside Many Other Curious and Weird Phenomena Produced by Subterranean Heat.

ILLUSTRATIONS

Early Morning at Going-to-the-Sun Chalet.
Frontispiece in Colors

Facing Page

Minnehaha of the Aspens, Rocky Mountain National Park 22

Loch Vale, Rocky Mountain National Park . 30

Cliff Palace, the Largest of the Cliff Dwellings in Mesa Verde National Park . 42

Spruce Tree House, Mesa Verde National Park 50

Grand Canyon from Mojave Point 56

Adobe Houses in the Indian Pueblo of Tesuque, New Mexico 58

Hopi Indians Decorating Pottery 62

View of Canyon and River 66

"Wawona," the Tunneled Giant Redwood of the Yosemite 74

El Capitan and the Merced River, Yosemite Valley 82

Bridal Veil Falls, Yosemite National Park . 90

El Capitan in Winter 98

Vernal Falls, Yosemite National Park . . . 100

The Phantom Ship, Crater Lake National Park 110

Crater Lake Trout 114

Through the Fir Forest to Mt. Rainier National Park 122

Glacial Creek, Mt. Rainier National Park . 130

Afloat on Two-Medicine Lake, Glacier National Park 146

On the Trail, Glacier National Park . . . 154

Hymen Terrace, Mammoth Hot Springs, Yellowstone Park 162

Old Faithful Geyser 186

Black and Brown Bears in Yellowstone Park 194

Grand Canyon and Great Falls of the Yellowstone 202

A TOUR OF AMERICA'S NATIONAL PARKS

INTRODUCTION

BEFORE the world war, hundreds of thousands of Americans not only knew all about the Grand Tour of Europe, but were more or less thoroughly acquainted with particular foreign countries, even to remote sections possessing scenic, historic, or other points of interest. On the other hand, the scenic and historic places in the United States were known only to comparatively few travelers of the country at large and to residents of the communities immediately adjacent to them. It was with profound surprise, therefore, that when war closed Europe to American tourists, they, in looking about for places to visit on this continent, found in the western mountain ranges a chain of national parks set apart by Congress to be maintained forever in their natural state for the benefit and pleasure of the people.

They had heard perhaps of Yellowstone and Yosemite Parks, but these places were rather more associated with geysers, enormous waterfalls, and other remarkable phenomena to be hurriedly glimpsed as they might look at the Woolworth Building in New York than with the idea of great national playgrounds, established and maintained as a part of a system which is to furnish recreational, educational, and health restoring advantages for us and for generations yet to come. Even the Yellowstone and Yosemite were visited each year by a mere handful of people, most of whom lived in the States in which the parks are located or in neighboring States.

The process of introspection which Americans were forced to use in planning their vacations in 1915 and 1916, aided by unceasing publicity work by the Department of the Interior and by the transcontinental railroads, developed in the public consciousness a pretty complete realization of what the national park

system was. In those two years travel to the parks increased by leaps and bounds, and even during our participation in the war the parks were visited each year by 200,000 more people than toured them in 1914. This year there is every prospect that national park travel will break all previous records by a very great margin.[1]

The national park system is frequently called "The Incomparable Circle." This is because the largest of the scenic parks are so situated in the Rocky Mountains, the Sierra Nevadas, and Cascades that they form points on an imaginary circumference with Salt Lake City approximately the center of the circle. The parks in this chain alone form the greatest and most remarkable group of natural wonders on the face of the earth, as well as the most beautiful and varied scenery the world affords.

1 Since this foreword was written the travel records for 1919 have been compiled. They show that 755,325 people visited the parks during the tourist season, while the travel in 1918 totaled 451,691.

The distinctiveness of the national parks is worthy of especial comment. There is no place in this or in any other country where there are so many geysers, hot springs, and other manifestations of the action of subterranean heat on the earth's surface as in Yellowstone National Park, and yet these features are only a few of scores of remarkable works of nature in this one reservation. In the entire world, there is no other valley so beautiful as the Yosemite, with its waterfalls, its domes, its spires, and its towers, and yet it has a back country with mountain scenery that is second to none.

The Grand Canyon National Park contains the gorge that represents nature's greatest work of water erosion. It is thirteen miles across this yawning chasm and it is a mile deep. Its wonders and its gripping charms have defied description in written or spoken words and even the painter and photographer have failed to give those who have not beheld

this stupendous spectacle even a remote conception of what it really is.

In Sequoia and General Grant National Parks the giant sequoia grows—oldest and largest of living things. Sequoia National Park also has high scenic regions of such magnificence that Congress is considering the advisability of adding certain other mountain territory, including Mt. Whitney, the highest point in the United States, and dedicating this enlarged park as a great memorial to the late Theodore Roosevelt, giving to it his name.

Oregon's representative in the park system is Crater Lake and the surrounding mountainous region. Crater Lake is situated in the crater of an extinct volcano. Its surface is 1000 feet below the rim and its blue color has no equal in the waters of the earth, and, it is a spectacle of sublimity that holds one spellbound.

Mount Rainier, in Washington, has the largest single peak glacier system of which we have record. The reservation is also known

as the "Wild Flower Park" because between the great glaciers wild flowers grow in such profusion that they alone are sufficient to lure and hold the interest of the visitor.

Glacier and Rocky Mountain National Parks sit astride the Rockies and exhibit the most remarkable evidences of glaciation that has carved the mountains into scenery than which there is no more sublime and thrilling on the globe. In the former the glaciers have performed their sculpturing in ancient sedimentary rocks thrust up and over on the plains by some tremendous cataclysm within the earth; while in Rocky Mountain Park the ice has carved in solid granite. Hence these parks, while somewhat similarly formed, are vastly different in the character of scenery they exhibit.

The remaining member of this park chain is Mesa Verde, where the largest and best preserved of all the cliff dwellings are to be found. This is the land of romance and charm that grips your very soul and you leave it with

greater reluctance than you feel when departing from any other park.

This is "The Incomparable Circle" that Colonel Reik knows and loves. He was one of the first Americans to see it in its larger aspects and to comprehend it in its full importance to the Nation of today and tomorrow. He has ridden over the automobile roads of the parks and he has tramped their trails. He knows the beauties of the remote places as well as those that are easily accessible. He has photographed the parks, using natural color processes with unusual success, and with his remarkable pictures he has in lectures and personal conversation sought to arouse his friends and fellow citizens to a full appreciation of these great American playgrounds.

Now, Colonel Reik has written this book of his travels, thus broadening his field of public service. He has carefully prepared this volume with the idea not only of describing his own experiences but for the purpose of telling others how they may go and see and enjoy

what he has seen and enjoyed not once but several times—the same things that he will go back to until the end of his days because none is more devoted to the national parks and the mountains than is the author of this work. May all who read this book, imbibe his love of country as related to the big things of nature, and his enthusiasm for the out-of-doors.

HORACE M. ALBRIGHT,
Assistant Director, National Park Service.
Department of the Interior,
Washington, D. C.,
June 30, 1919.

OUT AMONG THE BIG THINGS

Out among the big things—
The mountains and the plains—
An hour ain't important,
Nor are the hour's gains;
The feller in the city
Is hurried night and day,
But out among the big things
He learns the calmer way.

Out among the big things—
The skies that never end—
To lose a day ain't nothin',
The days are here to spend;
So why not give 'em freely,
Enjoyin' as we go?
I somehow can't help thinking
The good Lord means life so.

Out among the big things—
The heights that gleam afar—
A feller gets to wonder
What means each distant star;
He may not get an answer,
But somehow, every night
He feels, among the big things,
That everything's all right.

ARTHUR CHAPMAN.

A TOUR OF AMERICA'S NATIONAL PARKS

Introductory Chapter

THERE is nothing so instructive in an educational way, nothing so beneficial to health and so helpful in attaining a true perspective regarding one's own place in the universe, as the effect of travel if one possesses ordinarily good powers of observation. It is not long since the "Grand Tour of Europe" was habitually spoken of as an essential element in the education of a cultured person. While that will always remain a desirable voyage, there had already arisen, even before the advent of the great World War, a cry in favor of "Seeing America First." Without underestimating the value or the pleasure of European travel, and without urging strongly the seeing of any particular

country or place "first," it would seem but natural that the vast majority of Americans might be expected to become more familiar with their own country than they now are. If you should be fortunate enough to plan a definite trip around the world, then, perhaps, you should begin with your own country, but, do not forego a special opportunity to visit any country simply because you have not yet seen America. It is a good rule to travel wherever and whenever you can. However, at some time or other, first or last, as one grand tour or as the result of many small trips, every true American should manage to pay his respects to the marvelous natural scenery of this continent.

Within the domain of the United States there exists some of the finest Alpine mountain scenery, some of the most beautiful lakes and woodland country, and some of the most remarkable natural phenomena that may be observed anywhere in the world. For instance, in Yellowstone National Park are to be found

more Geysers than in all the rest of the world together and, incidentally, the finest specimen of a geyser—Old Faithful—a typical demonstration of the Bunsen theory, has been performing with the regularity of clock-work for countless centuries. Sequoia National Park contains the largest forest of the greatest trees in the world; 12,000 Giant Redwoods, each more than 10 feet in diameter; many more than 30 feet in diameter, 100 feet in circumference, and in the neighborhood of 300 feet in height; the oldest living things in existence. Mt. Rainier National Park has the largest accessible single-peak glacial system; 28 different glaciers radiating from the summit over its broad slopes, the latter being punctuated by acre upon acre of wonderful wild flowers. Mesa Verde National Park embraces the most notable and best preserved prehistoric Cliff Dwellings known to man. Similar specifications might be given for each of the entire list of parks.

By a wise provision of our Government,

selected portions of the most curious and interesting bits of our natural scenery have been set aside in the form of Public Parks, to be held inviolate for all time "For the Benefit and Enjoyment of the People." When, in 1872, the Congress of the United States enacted a Law establishing the Yellowstone National Park, a precedent was set which has since been adopted by several other Nations, and which has developed into a policy that gives us today a large series of these playgrounds. Each year they are becoming more popular, and increasing thousands are availing themselves of the privilege, not only of visiting them to observe and study their curious features, but of camping out, fishing and enjoying the beneficial results of "Getting Back to Nature."

Now it happens that the principal members of our group of National Parks are so located that they may be included in a circular tour of the country and, while describing each park separately, it seems worth while to sug-

gest their combination in the form of a "Grand Tour of Our National Parks." It is possible to procure a round-trip ticket from any point, permitting a visit to each of the nine large parks, and enabling the traveler to cover the course comfortably within the period of two months. It goes without saying that a much longer time might be profitably devoted to the journey; but the fact that it can be accomplished in so short a time will be new to many people, and may make it possible for some who have but limited opportunity to travel to take the trip and enjoy most of the benefits.

General Plan of Tour

Starting from New York, or any other eastern point, by that trunk-line railroad which will most conveniently furnish transportation to Denver, the route of the excursion ticket thence would be as follows:

Denver to Santa Fe, N. M., via Denver and Rio Grande R. R.

Santa Fe to San Francisco, via Atchison, Topeka and Santa Fe R. R.

San Francisco to Seattle, via Southern Pacific R. R.

Seattle to Great Falls, Montana, via Great Northern R. R.

Great Falls to Gardiner, Montana, via Northern Pacific R. R.

Yellowstone Park Transportation Co. through the Park to Cody, Wyoming.

Cody to Denver, via the Burlington Route.

With stop-over privileges and the addition of a few short side trips this will permit visiting the parks in the following manner:

First on the list is the new Rocky Mountain National; to be taken as a side trip from Denver, over the Colorado and Southern railroad to Loveland, Colorado. The city of Denver itself is very attractive, having an excellent system of local parks, and it is worthy of mention at this point that there are along the route of this circular tour many other interesting things to be seen beside those included

in the parks. For instance, in Colorado the journey may be arrested at Colorado Springs for a visit to the Garden of the Gods, Pike's Peak and Manitou Springs.

Mesa Verde National Park, also in the State of Colorado, is reached by using the main ticket as far as Alamosa, Colorado, and then purchasing a side-trip ticket to Mancos and return. The railroads are very liberal in providing choice of routes and stop-over privileges. If, when having the ticket made up, attention is called to it, the side trip to Loveland, referred to above, is provided without extra cost; and, at the same time, it is possible to make a choice of routes to Alamosa, so that Mancos shall be included in the original ticket, together with the privilege of going through the Royal Gorge.

Resuming the trip at Alamosa, you continue to Santa Fe, the oldest established town in the United States, and in this vicinity the opportunity is afforded to visit some interesting Indian villages. At this point change is

made to the Santa Fe railway system, along the course of which the first important attraction presented is the Petrified Forest of Arizona. An automobile ride of one hour takes you direct to the largest field of the largest and most perfect specimens of petrified wood anywhere on this globe. Another side-trip, from Williams, Arizona, takes you to the most wonderful of all the World's Wonders—the Grand Canyon of the Colorado River.

En route from Williams to San Francisco, stops may be made at Visalia, California, for entrance to the Sequoia National Park, and, at Merced, California, for the Yosemite Valley. Between San Francisco and Portland, Oregon, stop-over is made at Medford to permit another side-trip by automobile to Crater Lake National Park, and, proceeding northward, Mt. Rainier National Park is but a short ride by train or automobile from either Tacoma or Seattle.

Turning homeward now, Glacier National Park and the Yellowstone are visited, in turn,

and the circle completed at Denver, near the eastern exit from the latter park.

The accompanying diagram shows in schematic form the location of each of the parks and the railroad points from which they are best reached. Of course, it is equally possible to take the trip in reverse order, or, to eliminate any park that does not appeal to the individual, and to vary the time at each place to suit the personal taste.

The cost of traveling and living within the parks is under Government regulation, and each season pamphlets are issued (secured by addressing the Director of the National Parks Service, Department of the Interior, Washington, D. C.), setting forth the specific charges for every kind of service in each park; so that you may determine in advance just how you will live and at exactly what cost.

All of the parks are now open to automobiles and the roads are reasonably good in all of them. There has been a very rapid growth in the number of private machines entering

the parks during the past three years and many have enjoyed the delightful experience of crossing the continent in a private car and visiting some of the parks en route.

CHAPTER II

ROCKY MOUNTAIN NATIONAL PARK

"Into the wilderness, come!
Here where the wild bees hum.
The aspen leaves quiver,
Now darkly, now bright,
The willow-dim river
Sings loud with delight,
Birds are a-singing and voices are dumb—
Into the wilderness, come!"

HERMAN HAGEDORN.

DENVER is appropriately called the "Gateway to the National Parks" and that term is especially applicable to this plan for a grand tour of all our parks. As already set forth, the circular portion of that tour starts from this city. Denver is, literally, the central gate or doorway to the Rocky Mountains and its interest in the subject of parks in general is well attested by the number of local parks

established by the City Government. It is an unusually attractive city, enjoying a delightful climate, because of its advantageous location on the eastern slope of the Rockies, with an altitude of 5000 feet, and with homes that have evidently been planned to secure to the inhabitants the greatest amount of benefit from the glorious sunshine and pure air. The claim is made that it has 300 sun-shiny days in the year. The dwellings, ranging from the small bungalow type to the most palatial residences, are practically all built singly, with lawns and gardens surrounding them. Flowers grow almost as abundantly and quite as perfectly as in many more tropical regions, and as the land has a gently rolling character, the adopted style of architecture and of floral decoration tends to make a city beautiful.

There are four large public parks within the city limits. Largest of these, the City Park contains a Zoological Garden with an interesting collection of animals, a municipal

Photo by Wiswall Bros. Reproduced by courtesy of the National Park Service.

MINNEHAHA OF THE ASPENS. ROCKY MOUNTAIN NATIONAL PARK

golf links, a conservatory, and two small lakes on which boating is possible.

An electric fountain, with kaleidoscopic color displays, has been constructed here especially to entertain Denver's citizens and guests at night, while they listen to the Municipal Band concerts which are given every evening and on Saturday and Sunday afternoons. Here too is found a very interesting Museum containing a remarkable collection of the wild animals of the western states, mounted and grouped as nearly as possible in accordance with our knowledge of their natural conditions. Washington and Berkely Parks, in other parts of the city, are attractive mainly because of their public bathing facilities, playgrounds and tennis courts. Cheesman Park is a small one on the western border of the city, affording a commanding view of the principal peaks of the Colorado Rockies, from Long's Peak on the north to Pike's Peak on the south. Crowds of people congregate there nearly every evening, in and about the Cheesman Memorial Build-

ing, to witness the sun-set, with its effective cloud coloring over the mountain ranges.

Not content, however, with such a series of local parks, Denver has adopted a unique scheme in the construction of a boulevard to Lookout and Genesee mountains, both located in neighboring counties, and the maintenance of large parks in these favored places; driveways and sites that afford marvelous views of the surrounding mountains and plains. Many interesting day trips into the country adjacent to Denver, by automobile or street car, are advertised to the tourist and all of them are worth taking if time can be spared for that purpose. In consequence of all this interest in out-of-door life, Denver is not only a necessary and appropriate place from which to start on the park tour, but a city in sympathy with your desires and objects.

In selecting a route to the Rocky Mountain National Park (still locally spoken of as Estes Park) you may choose between an automobile trip the entire distance and a combined auto-

mobile and railroad journey over either of several different courses. For instance, train may be taken to Longmont or Lyons; to Loveland, a few miles further north; or, to Fort Collins, still further northward; and the journey from either of these places will be completed by automobile stage to the park. Of these different routes, the Loveland entrance is the most interesting because the road parallels the Big Thompson river almost the entire distance of 32 miles, and for a considerable part of this distance the river traverses a narrow canyon with high rocky walls, in many places quite brightly colored. It is the longest but decidedly the most picturesque route. All tickets, however, permit a choice of these ways, and permit of going in one way and out by another.

Arriving at the village of Estes Park, you find a small mountain town whose sole business is the entertainment of summer visitors. The rapidly growing popularity of this region is attested by the fact that the 50,000 visitors

of 1916 was more than doubled in the year 1917, in spite of the depressing effect of war conditions. The situation of this park, so near to the nation's population center, assures it a popularity greater than can ever be attained by the more distant resorts. Denver is but thirty hours from Chicago and as the Rocky Mountain Park is actually adjacent to that city it is possible for the visitor from the Atlantic coast region to reach the park with but two and a half days' journey. Thus, this one park is brought within reach of the traveler who has but a limited two weeks' vacation and enables him to make the round trip without using up all his time on the railroad.

From the many good hotels in Estes the principal points of interest may easily be reached. Garages and liveries are numerous in the town and machines or trail animals can be obtained at reasonable rates. Nor is there any set programme for seeing the sights of this park. It is mainly virgin mountain country, some of it yet to be explored, a great deal

of it yet to be made available to tourists by road or trail; all of it offering attractions of a most interesting character. There is much wild animal life in these woods and the streams abound in fish. Hunting is prohibited in all our national parks, but the angler will find plenty of good sport. So numerous are the inviting trails, one might spend an entire season in this park and find something different to do each day. But, if time is limited and it is desired to secure a comprehensive knowledge of the district in the shortest possible time, there are three single-day trips especially to be considered. These embrace a trip to Loch Vale, the trail trip to Lakes Fern and Odessa, and the ascent of Long's Peak.

Loch Vale is about eleven and a half miles from Estes Park, the first six miles being over a good roadway and the remaining portion by mountain trail. If you are a good horseman the round trip can be covered comfortably by riding the entire distance. Should walking be preferred, it is well to engage automobile pas-

sage over the first six miles, that is, as far as Sprague's hotel, and to commence the tramp from that point. The trail is very good, rather steep in places, and an elevation of 11,000 feet is reached; the altitude of Estes Park, the starting point, being 7,700 feet. It is a great pity that more people do not "hit the trail," depending upon their own means of locomotion; for it is only by walking that you may reap the real benefits of this sort of life. Not only is the exercise beneficial, but it is thus possible to drink in so much more of the general scenic beauty as you saunter along, and there is time to stop for closer inspection of the many interesting things that bob up, uncommon plants and rare flowers, vistas into the woods or ravines that line the way, and for charming bits of landscape that stir the artistic sense. The majority seem to think the horse, or, more often perhaps, the burro or donkey (sometimes dubbed the "Rocky Mountain Canary" on account of the resonance of his voice), an indispensable aid to mountain

climbing. This is a mistake, from several points of view. A war story that may be apropos is told of a negro who was considering entering the army, but found it difficult to decide between the infantry and the cavalry. A friend was trying to induce him to join his company in the latter branch of the service, though his own predilections were for the infantry. In the course of argument, the friend declared, "Rastus, you a fool nigger, don' you know dat in de cavalry you gits a hoss to ride?" "Oh, yass," he replied, "I knows all 'bout dat. Dass all right 'bout ridin' a hoss into de battle, but des 'spose dey souns a ree-treet—man, sir, I don' want no hoss to bother wid." Observation of the tender-foot riders in the mountains suggests that most of them would have been happier without a horse to bother with, and, that they would not have suffered half as much discomfort from the exercise of walking as they did later from the effects of riding.

From the village, the road follows for some distance close beside the Big Thompson river

and passes the camping grounds of the Young Men's Christian Association Summer School. Then it enters the valley between Wind river and Glacier Creek, running to a point where the trail starts at a fork in the latter stream. Following Glacier Creek, the trail winds steadily on and upward into Loch Vale and it would be difficult to exaggerate the beauties of this trip; scenery not to be found elsewhere nearer than Switzerland. Wilderness and grandeur are the two most prominent characteristics of the region. Here is Nature at rest. Here is peace, tranquility and thrilling beauty, and it is difficult to believe there can be strife and turmoil in the world.

In like manner, the Fern and Odessa Lake trip may be divided between driving and walking; the highway affording a delightful drive of five miles to a point just beyond the hotel Brinwood. From this spot the trail leads, for a short way, through a meadow land lightly wooded with Aspens and over ground covered with bracken. The climb to Fern Lake, about

Photo by Wiswall Bros. Reproduced by courtesy of the National Park Service.

LOCH VALE, ROCKY MOUNTAIN NATIONAL PARK

four miles, is by a gradual, steady ascent and there are two interesting side trips worthy of attention; to Fern Falls and Marguerite Falls, respectively. Visit to Marguerite Falls had better be taken on the return journey, because the foot trail is very steep and rough—horses are not allowed on it—and descending it is rather more easy than ascending. Fern Lake is a charming body of water, of greenish hue, approximately an eighth of a mile in diameter. There is a lodge on its southern shore that invites dwelling there indefinitely. Excellent views of neighboring peaks of the "Snowy Range" can be had, and it must be very pleasant to float on the bosom of this lake when the setting sun gilds the mountain tops or the silvery moon casts its refulgent beams on the water. The elevation is about 10,000 feet.

One mile further on, and a little more than 500 feet higher, is Lake Odessa. Though smaller, this is an even more beautiful lake; really an exquisite gem. Its water is icy cold, clear as crystal and emerald green in color.

Large rain-bow trout, 15 to 18 inches in length, may be seen swimming in and out of the shady pools by the shore line and occasionally leaping to the surface, their brilliantly colored stripes flashing in the sun; it would appear to be a Fisherman's Paradise. On still higher, another 500 feet, Lake Helena nestles in a depression between Flat-top and Notch-top mountains. This is but a tiny lake and possesses no special charm, but it affords a good object lesson in the formation of mountain streams from melting glaciers, and, it is at the end of the trail, from where good views of the Little Matterhorn and other mountain peaks can be obtained.

The third trip recommended, the climbing of Long's Peak, requires a journey of nine miles southward from the village of Estes to Long's Peak Inn, at the foot of that mountain. This famous hotel is the home of the still more famous and distinguished naturalist, Enos Mills, whose stories of the wild animal life of this region have become so deservedly popular.

Long's Peak may be said to dominate the scenery of this park and of the entire region around Estes; rising as it does to an altitude of 14,255 feet. It may be seen on clear days even as far as Denver, and from the moment you approach the park boundary this peak is readily distinguished from its fellows. Ascent of this mountain is not especially difficult, is practically devoid of danger and brings high mountain climbing within range of the inexperienced. The view from the top is one that commands a broad expanse of plains to the east and a seemingly endless series of mountain ranges to the west, north and south.

The Continental Divide runs through the Rocky Mountain Park and at several points it is possible to cross the divide by trail to resorts on the western slope of the Rockies. Most attractive of these trips is the one to Grand Lake, the largest lake in Colorado, situated 9,000 feet above sea-level. Yacht races are held upon this lake every summer and this yacht club probably enjoys the distinction of being the highest, in point of altitude, in the world.

CHAPTER III

MESA VERDE NATIONAL PARK

"And, as the Cock crew, those who stood before
"The Tavern shouted—'Open then the door,
" 'You know how little while we have to stay,
" 'And, once departed, may return no more.'

"With me along the strip of herbage strewn
"That just divides the desert from the sown,
"Where name of Slave and Sultan is forgot—
"And Peace to Mahmud on his golden Throne."

Rubaiyat of Omar Khayyam.

WAS Omar right? Are we but "Impotent pieces of the game He plays upon this checkerboard of nights and days"? Are we mere puppets on this world stage? Have we any real control over our actions and our destinies, or is all the thought we give to planning from day to day wasted? How few of us can comprehend what has gone before or even understand what is now happening.

A visit to Mesa Verde will surely set you

thinking along these lines and remind you of the old poet. Here, indeed, is a strip of land that divides the desert from the sown; the barren, sandy wastes of New Mexico and Arizona from the wonderfully productive farm country of Colorado. Not that the desert is without interest and attraction; you may there easily forget that Slave and Sultan exist and will find a peaceful atmosphere in which to speculate and philosophize. And, in this park you will find striking evidence of a race that played its brief part and departed, to return no more; "Without asking, hither hurried Whence? And, without asking, Whither hurried hence."

Although one of the youngest of our national parks, having been admitted to that list of distinctive institutions so recently as 1906, Mesa Verde enjoys its title to this rank because of its great antiquity. No one knows when it had its origin nor to whom the work of its establishment is to be accredited. When were these Cliff Dwellings constructed? Who

were the Cliff Dwellers? At what period of the Earth's history did they live and to what race of human beings did they belong? Where did they come from and where have they gone? These are all questions that naturally arouse considerable interest in the mind of the visitor and yet which must today go unanswered. Gradually some knowledge of the subject is being evolved through the painstaking and indefatigable labors of a small group of scientists, and perhaps the day is not far distant when a fairly reasonable idea of the character and mode of life of these pre-historic people may be available to us. Even now a sufficiently illuminating series of facts has been disclosed to make a study of the subject interesting to even the ordinary tourist, and to make a visit to this region of excavations a desirable and inspiring affair.

The Mesa Verde Park is located in the southwestern corner of Colorado, the town of Mancos, on the Denver and Rio Grande railroad, being the nearest rail approach, and the

scenery of that district is deserving of being classed among the most charming of our wonderful mountain and desert land. From Mancos the Government has constructed an excellent automobile highway for a distance of 32 miles to the park, and is now contemplating a series of additional roads within the park territory that will make available a much larger area of beautiful country. Colorado probably contains as much interesting, beautiful and marvelous scenery as any single state in the Union and the visitor to the two National Parks located within her borders, whether making the grand tour of all the parks or not, will be wise to take in as much as he can of the other wonderful scenery of the state, while traveling to these special places. It would be very unwise, for instance, to pass directly through Colorado Springs, on the way from Denver to Mancos, without pause to inspect some of the natural features of that lovely resort. Again there is a choice of several possible routes between these central

points, and both pleasure and profit can be had by stopping briefly at some of the most attractive places along the chosen route. It has already been mentioned, in the itinerary for touring the parks, that you may travel directly south from Denver to Antonito and thence westward, by a branch line, to Mancos. But, if preferred, you may when purchasing your transcontinental ticket, secure, without additional charge, the privilege of approaching Mancos by one of the so-called "Round the Circle" trips; or, you may by the payment of $10 extra secure a still different form of "Circle" ticket that will open up to you some of the grandest scenery to be found anywhere. Let us consider Colorado Springs and its attractions briefly before describing the three methods of reaching Mancos.

Colorado Springs, with its near-by attractions, is included in all three routes to Mesa Verde and no scenery in America has received more or better advertising than has this particular portion of Colorado during the past

twenty-five years. It is from this city that Pike's Peak is to be reached and that the Garden of the Gods and the two Cheyenne Canyons are entered. Pike's Peak is the one very high mountain in this country whose topmost pinnacle (14,109 feet above sea level) may be climbed by anybody. Long's Peak, in the Rocky Mountain Park, is not very difficult to climb, and yet it requires labor; Mt. Rainier presents a task that taxes the hardy, steady-nerved traveler; and numerous other peaks are reserved for the skilled and practiced mountaineers only. At Manitou, four miles from Colorado Springs, and connected thereto by trolley car and railroad, and at the base of Pike's Peak, you may step into a comfortable car of the cog-railway and in the short space of two hours find yourself at the summit, without having exerted any muscle power whatsoever and without having felt any discomfort unless it should be a slight exhilaration, sometimes resulting in a degree of faintness, from the elevated position and consequent

rarified atmosphere. The scenery along this cog-road presents nothing very remarkable; there are no broad or expansive views, because the vale between this and the ajoining mountain is rather narrow. From the summit there is a commanding view of the great Continental Divide, the central ridge of the Rocky Mountains; the Snowy Range, running along the western border of this Divide; and, the vast plains to the east, are spread before the sightseer. On a clear day parts of Colorado, Kansas and New Mexico are visible. The temperature is apt to be much lower at the peak than at the base of the mountain and almost any day in the season a light snow storm may be encountered. Even on the stormy or cloudy days the scene is, however, entrancing, for in lieu of the vast expanse of country referred to there will then be a great sea of clouds rolling below and obliterating the earth from view. It is not at all a unique experience here to pass through a shower or light snow storm on the way up into the realm of bright sunshine, and then to look

down upon these storm clouds on the one side, while on the other side of the mountain the hills and valleys for many miles are clearly outlined.

There is a shelter house at the peak, where light refreshments may be had and where accommodations are provided for those who desire to remain over night for the purpose of observing a sunset or sunrise from this elevated position. A considerable number of people feel some effect from this sudden transition from a low to such a high altitude; to some of these the most beautiful objects on Pike's Peak are the hot coffee urn and the heated Rest Room. A very small percentage suffer any greater discomfort and they experience only sensations comparable to a mild sea-sickness.

There are now two other means of reaching the peak. The first, of course, is to walk; a plan that appeals to mountain and Nature-lovers and the tramp may follow either the path beside the cog-railway, or the burrow

Photo by Arthur Chapman. Reproduced by courtesy of the National Park Service.

CLIFF PALACE, THE LARGEST OF THE CLIFF DWELLINGS IN MESA VERDE NATIONAL PARK

trail which parallels this and is seldom more than 100 feet distant. Recently an automobile boulevard has been opened to the peak; private machines pay a small toll for its use, and a Transportation Company runs autobusses on regular schedule for those who wish to travel that way.

The Garden of the Gods is a region in which the earth's crust, consisting here mainly of limestone, red sandstone and porphyry, has been worn by time and the elements into somewhat fantastic shapes, here and there leaving sharp pinnacles or massive boulders; in other places smaller rock formations bearing a fancied resemblance to animals or other familiar objects. Adjoining this garden an enterprising showman has established on ground of a similar character a replica of some of the principal Cliff Dwellings of the Mesa Verde Park, together with a museum containing specimens of pottery and other handiwork of the aborigines, secured by excavations in that region. An admission fee of

$1 is charged and the guide explains what is known of the ancient tribe of Cliff Dwellers. This is the most interesting single feature of a visit to Manitou and should be seen if one is unable to visit the real thing at Mesa Verde. The South Cheyenne Canyon affords an attractive park-like drive into one of the many indentations in the rocky ridge and differs from hundreds of others only in the fact that there is a rather pretty water-fall at its inner extremity, a cataract of 300 feet drop divided into seven short leaps. On the mountain top near here is the tomb of the late Helen Hunt Jackson, who, it is said, was the first person to explore this canyon and who called attention to its great beauty, expressing the wish to find her eternal resting place on the highest point of its south wall. Most of the named points of interest here, as in the Garden of the Gods, received their baptism from Mrs. Jackson.

The direct route to Mancos, after leaving Colorado Springs, runs south to Cucharo

Junction, between the Spanish Peaks, by way of La Veta Pass to Alamosa, and southward again to Antonito, where a branch line connection is made for Mancos. Should you prefer to include a view of the Royal Gorge, the privilege is extended of making a diversion from Pueblo, one hour's run south of Colorado Springs, riding through the gorge and traveling south from Salida to Alamosa, Antonito and Mancos. Either way the scenery is very beautiful.

Taking the "Round the Circle" trip to Mancos, the journey from Colorado Springs runs by way of Pueblo, thence westward to pass through the Royal Gorge of the Arkansas river. Special open cars are provided, being attached to the train at Canyon City and run through to Parkdale, permitting an unobstructed view of all the grandeur and sublimity of this mighty gorge. The distance is only about eight miles, but a wonderful amount of remarkable scenery is concentrated in that short ride. The water dashes and

plunges through the deep, dark canyon whose precipitous walls lift themselves to the dizzy heights half a mile above.

At Ridgeway, Colorado, the circle trip divides and a choice is presented of continuing all the way by rail, over the Dallas Divide and around Lizard Head mountain and Trout Lake to Dolores and Mancos, or of stopping off at Ourey, one of the most beautifully located mountain towns in the world, and taking stage there to Silverton—a thrilling mountain ride through the wildest and most picturesque portion of the Rockies—and then continuing by train through the Canyon de Los Animas Perdidas (canyon of the Lost Souls) to Durango and Mancos. It is difficult to advise as to which of these routes is preferable. Of one thing you may feel sure. You will secure your money's worth by either route, for the scenery each way is glorious beyond description and the selection must depend upon what particular feature seems most interesting to you, or upon the amount of time that can be

allotted to the trip. Should you be returning to Denver, actually making the circle, of course you will go out by one and return by another of these routes. If, however, you be following the grand tour of the parks and intend to proceed next to the Grand Canyon of Arizona, the return to the main line from Mancos will be to Antonito and thence southward to Santa Fe, New Mexico. This also is through an attractive mountain country with the Sangre de Christo range occupying the center of the stage.

At Mancos, transportation to the Mesa Verde Park is furnished by automobile stage; a three hours' ride over an excellently constructed government road. The chauffeurs are all capable guides and will show visitors through the four principal ruins: Cliff Palace, Spruce Tree House, Balcony House and the Sun Temple. All of this can be accomplished in one day and this park may be seen within a twenty-four hours' visit if time has to be considered as an important factor. Much

more time can be profitably devoted to the park, however, for not only are the ruins of surpassing interest, but the natural scenery of the vicinity is fascinatingly beautiful. There is recreation here to content one for weeks, roaming through the canyon to explore the ruins, climbing the mesa and surveying the jagged sky-line of surrounding mountain ranges. Westward is the "Sleeping Ute," a great mountainous mass so formed as to resemble a gigantic indian in repose, stretched at full length on the hill-top. Northward, with their saw-toothed, snow-capped peaks, the Mecampahgres range towers. Eastward, and comparatively near, are the graceful La Plattas; while, to the south, spreads a far sweep of mesa land. Spreading round about in a bewildering maze are deep-furrowed, labyrinthine canyons, in the caves and on the ledges of whose precipitous walls the Cliff Dwellers built their unique abodes. Wild flowers abound in the spring and early summer. The Mesa Verde (green table-land), so

named because of the growth of spruce and pinyon trees in a land where trees of any kind are very scarce, has an elevation of 8000 feet and overlooks, on the west, the Montezuma valley with its well cultivated fields.

The Cliff Dwellings were accidentally disclosed to our generation in 1888 by two brothers who were searching for lost cattle. Pushing through a dense growth on the edge of a deep canyon they suddenly beheld this unusual sight and shouted aloud in their astonishment. Their surprise can well be imagined, for, across the canyon, tucked into a shelf under the overhanging edge of the opposite brink, were the walls and towers of what seemed to them a palace. Forgetting the cattle, in their excitement, they searched the edge of the mesa in all directions. Under the overhanging ledge of another canyon they found a small group of structures no less majestic than the first, and as there was a large spruce tree growing out of these ruins they named this main structure the Spruce Tree House, and called the

first discovered dwelling the Cliff Palace. Thus was discovered accidentally the most elaborate and best preserved prehistoric ruins in America, if not in all the world. Since then careful explorations have been made by scientists, and a most remarkable series of dwellings, temples of worship, watch-towers and forts, implements of trade, instruments of warfare and the chase, household utensils and bits of artistic pottery have been unearthed. Many pieces of the pottery, especially, are well preserved and compare very favorably in design, in decoration and in workmanship, with similar work of the present day Pueblo Indians. From the mortuary chambers of some of the dwellings mummified bodies of the late cliff-dwellers have been taken and the skeletons appear to be about the same as those of the Flat-head Indians. There is abundant evidence to prove that these people cultivated the land, raised corn and ground it into meal, by pounding or rubbing it between stones, baked their bread in stone ovens, and pos-

Photo by Beam, Denver, Colorado.

SPRUCE TREE HOUSE, MESA VERDE NATIONAL PARK

sessed stone bowls and dishes for the cooking and serving of meats. Some of these vessels are quite artistically decorated. It would seem that the Cliff Dwellers occupied a station intermediate between the Cave Dwellers and the more civilized Indians of other regions. Their houses were well constructed of stone, held together by adobe mortar, and were partitioned into rooms for various purposes. For doors they used slabs of stone held in place by wooden rods, and for staples, into which these rods might be inserted, made use of willow wands, that could be bent and their ends embedded in the mortar.

Spruce Tree House is over 200 feet long, nearly 100 feet wide, and contains 114 rooms, eight of which were reserved for ceremonial purposes. A Ceremonial chamber, or Khiva, was a place of meeting for religious services that probably consisted mainly in prayers for rain, in this arid region, and, for tribal conferences. Cliff Palace is even larger than Spruce Tree House and lies under an enor-

mous cave-like roof of stone, while its floor is several hundred feet above the bottom of the canyon. The structural masonry of this building is of fine character and would not discredit a mason of today. Sun Temple is an amazing edifice, evidently the supreme result of efforts of the Cliff Dwellers to design and construct a temple of worship.

Mesa Verde holds great possibilities for study, for contemplation and for enjoyment and, while in that neighborhood, some comparative consideration may well be given to the pueblos of present day Indians. This can easily be accomplished by stopping off for part of a day at any one of the following places: San Juan, Santa Clara, San Ildefonsa or Tesuque; the latter best reached by driving out from Santa Fe. An extra and very unusual treat awaits those who chance to be in that vicinity about the end of September and can attend the great Indian Fiesta at Taos. September 30th is San Geronimo Day and, though no one knows how it originated, it is

still observed every year with great pomp and ceremony. Taos is perhaps the oddest town in America today and, incidentally, it is one of the oldest, for it was built by Pueblo Indians and some of its houses were inhabited long before America was discovered by Columbus. The great Tribal Dances of the Indians have almost vanished from this country, but, in the northern part of New Mexico is a race of agricultural Indians who have remained very independent and who have clung tenaciously to their ancient customs. A Mission was established at Taos, by the Spaniards, in 1617, and St. Jerome was named as Patron Saint. The festival referred to is really a sort of Harvest Home celebration or Thanksgiving to the Sun God for the good season. The festivities commence on the afternoon of the 29th; so it is advisable to arrive on the morning of that day, if one would witness the entire proceedings.

At Vespers, the evening before the Saint's Day, the festival begins with candle offerings.

As the fast setting sun suffuses the valley with soft light, an Indian, an Acolyte, climbs to the flat roof of the adobe chapel and with a stone in each hand beats the call to services. After the preliminary religious exercises, two bands of Indians, crowned with leafy chaplets and bearing green boughs in their hands, file into the courtyard of the chapel, face each other in two long lines, and then, to the music of their own weird chanting, begin the Sun Dance. The following day is devoted to secular celebration and assumes more the character of a County Fair; there are gaily decorated booths offering food, drink and fancy articles for sale, and amusement is furnished in the form of races, athletic contests and clownish mirth-making.

CHAPTER IV

THE GRAND CANYON OF ARIZONA

"All Heaven and earth are still, though not in sleep,
But breathless, as we grow when feeling most;
And silent, as we stand in thoughts too deep."

LORD BYRON.

THERE is a large area in the southwestern part of the United States that has sometimes been spoken of as "The country God forgot." The author of that phrase must have been a person who, "Having eyes to see, yet saw not." Rather would it seem that anyone living in this region or even passing through it as a tourist must become fascinated by its manifest charm and ever changing beauty. Can you think that God forgot a country wherein he placed some of the finest scenery in all the world? Observe that, beside a marvelous array of the most gorgeously colored landscape, He chose to put there two of the world's

great wonders—the Petrified Forest and the Grand Canyon of the Colorado River; that, in addition to a canopy of the purest cerulean blue upon which masses of white clouds play in the most fascinating manner every day and all day, and through which the stars gleam with exceptional brilliancy every night, He spread over this country a mystic charm that is more alluring to the soul of man than anything outside the desert can ever be. No, God certainly did not forget New Mexico and Arizona; God was lavish in his attention to this region and showered it with His gifts.

Transcontinental tourists sometimes speak of the American desert as a barren, dreary waste, the crossing of which must be endured but cannot possibly be enjoyed. Whatever it may have meant to those pioneers who *trekked* over it in the early days, the present method of crossing need not be dreaded. Even as seen from the windows of a rapidly moving express train the panorama is pleasurable and interesting. But the American Desert is far

Photo by H. T. Cowling. Reproduced by courtesy of the National Park Service.

GRAND CANYON FROM MOJAVE POINT

from being the barren, worthless land it appears to the casual passer-by. Get out and tramp through a portion of the desert and you will find many beautiful flowers blooming in this apparently arid waste. You will not be surprised to see the Cactus blossoming in perfection of form, size and color; but you may be amazed to discover a great variety of small, delicate, brilliantly colored flowers. Generally these are found growing under the protecting shade of a sage brush, and you will be mystified in wondering where they obtain food and drink. It is a demonstration of Burns' lines—"Ilka blade of grass keps it's ain drap o' dew." The desert has its own interesting flora, and, in addition, it should be remembered, it is capable of producing a luxuriant growth of plant life when treated in the proper way by irrigation. Some day this whole vast area may blossom and fructify as a fertile garden.

Breaking the journey at the City of Santa Fe, you will step into a quaint, old-fashioned town, whose buildings have the air of antiquity,

if not of decadence, and most of whose citizens speak a foreign tongue. It is the Capital of New Mexico, a large number of whose inhabitants speak Spanish and not a few adhere to the Indian language. There is abundant evidence of "American progress" in Santa Fe, but the most interesting features of the city are those pertaining to its early history. For instance, the oldest continuously inhabited house in the United States is said to be one located here and which was constructed long before the Pilgrims landed on our Atlantic coast. It was built by the Pecos Indians prior to the arrival of the Spaniards, who established themselves in this vicinity in 1605. The old Government Palace has been the seat of government for the Spaniards, Indians, Mexicans and present-day Americans, successively, and the great plaza has witnessed the most important local historical events of the past three centuries, at least, while as to what transpired there before 1600, in the days of the Cliff Dwellers, we have no record. Santa Fe has

ADOBE HOUSES IN THE INDIAN PUEBLO OF TESUQUE, NEW MEXICO

also gained some distinction in more recent years by being the home of General Lew Wallace, while he was writing "Ben Hur," and of Kit Carson; two gentlemen of rather different tastes and characteristics.

The Indian village of Tesuque may be reached by a short drive northward from the city and affords an excellent opportunity to study a typical pueblo. It lies in the midst of a flourishing farming country and a region that contains many relics of the ancient tribes. Because it is a farming community the men will be mostly occupied in the fields while the women look after the necessary things to be done within the village proper. Not only do they engage in basket weaving and rug making, but groups of squaws may be seen threshing grain after their old time method; the grain being spread out on a large cloth and beaten with flails. The buildings are mostly one-story in height, constructed of adobe and arranged in the form of a quadrangle; the central hollow square, or Plaza, being the place for public

meetings. A few houses are two-stories in height, but there are no interior stairways and the upper tier of rooms has to be reached by ladder to the roof of the first story. The Chief of the tribe is duly chosen or elected by his own people and is clothed with more than the power of an ordinary American Mayor; he is, in fact, a King or Dictator in a small way, having absolute authority in all tribal affairs. Their government is based upon the communal plan, all working for the good of the general community and all sharing in the products of the community labor. It is a rather interesting fact that the Pueblo Indians of New Mexico and Arizona have lived in accordance with this socialistic plan for hundreds of years, that they have universal suffrage, and that they have never been a charge upon our national government.

Continuing the journey westward from Santa Fe the railroad passes through numerous pueblos, glimpses of which may be had from the car window, and within a few miles

of others that would repay the time spent in visiting them. Three of the most important are Laguna, Acoma and Zuñi. Except for its more attractive location, on the top of a mesa 300 feet above the neighboring plain, Laguna differs but slightly from Tesuque; it is somewhat larger, the Mission church is more pretentious and there is an air of greater prosperity about the buildings. Acoma, attained by a drive of fifteen miles from Laguna, is built upon the summit of a table rock with eroded precipitous sides, 350 feet above the plain, which is 7000 feet above the sea. The Mission church of this pueblo has walls 60 feet high by 10 feet thick, with timbers that measure 40 feet in length and 14 inches square, and the task involved in its construction may be imagined when it is recalled that all the material used in building had to be carried by hand up a hazardous stairway cut into the rock. It is believed by some that the Acomas once had their home upon the *Mesa Encantada* (Enchanted Mesa), 430 feet in height

and about three miles from the present site, and that they were compelled to move because its only approach was closed by the falling of a cliff. Zuñi has been made famous by the writings of Mr. Frank Cushing, who lived in the pueblo for several years, and the Zuñi ceremonial dances are of world wide renown. Gallup is the railway point of departure for this pueblo and the trip is a comfortable carriage ride over good roads and through impressive scenery.

Crossing the line that separates New Mexico from Arizona, the Indians may be abandoned for a consideration of some of the inanimate wonders of this new "Land of Enchantment." Adamana is the point of arrest for inspection of the great Petrified Forest of Arizona, the largest collection of the largest and finest specimens of petrified wood to be found anywhere in the world. Thousands of acres are thickly strewn with trunks and segments of trunks, or covered with chip-like fragments. Some of these prostrate trees of stone are over

HOPI INDIANS DECORATING POTTERY

200 feet in length and from 7 to 10 feet in diameter. Many of them are broken into sections by transverse fracture and a cross section will resemble an onyx-top table, the coloring being beyond description.

Beyond Adamana, at Williams, Arizona, change is made to the train for the Grand Canyon of the Colorado River, and there, at the brink of the grandest and greatest and most wonderful chasm in all the world (the "Titan of Chasms" it has been called), you will be struck dumb with amazement. Trying to express his sensations upon first viewing this wonderful sight, a friend said: "Paralyzed, speechless, overwhelmed with emotion, I could only feel that I had thrust myself uninvited into the presence of the Almighty. That feeling of solemnity comes to us in many places where the stupendous works of the Maker impress us with the same sensation as on entering a great house of worship, but, nowhere have I ever felt anything like this overpower-

ing degree of reverence induced by the sublime grandeur of the Grand Canyon."

They tell a story at El Tovar of an artist, who was familiar with the region, taking his bride to the brink and, wishing to note the effect of a first view to her, requested that she should go blindfolded to the rim and get her first impression as he snatched away the covering handkerchief. For a long period she gazed at the gloriously beautiful scene, apparently stupefied, and then, with tears in her eyes, she said—"If you ever try to paint this I shall leave you." To her it seemed a sacrilege for man to attempt to portray the scene with his necessarily feeble imitations. If that may be applied to an accomplished painter, what should be done to the fool that attempts to paint a word-picture of such indescribable scenery?

The attempts of others, far more fluent speakers, should warn us not to try. "By far the most sublime of all earthly spectacles," said Charles. W. Warner. "It is beyond com-

parison—beyond description; absolutely unparalled throughout the wide world," said Theodore Roosevelt. "A gigantic statement for even Nature to make all in one mighty stone word. Wildness so Godful, cosmic, primeval, bestows a new sense of earth's beauty and size," was the comment of John Muir. According to William Winter, it is "A pageant of ghastly desolation and yet of frightful vitality, such as neither Dante nor Milton in their most sublime conceptions ever even approached." As a matter of fact these terse and forceful sentences are tame efforts to relate the impression received from a view of this wonderful phenomenon.

In a Government publication, Mr. Robert S. Yard says: "Even the most superficial description of this enormous spectacle may not be put into words. The wanderer upon the rim overlooks a thousand square miles of pyramids and minarets carved from the painted depths. Many miles away and more than a mile below the level of his feet he sees a tiny

silver thread which he knows is the giant Colorado. He is numbed by the spectacle. At first he can't comprehend it. There is no measure, nothing which the eye can grasp, the mind fathom. It may be hours before he can even slightly adjust himself to the titanic spectacle, before it ceases to be utter chaos; and not until then does he begin to exclaim in rapture, and he never wholly adjusts himself, for with dawning appreciation comes growing wonder. Comprehension lies always just beyond his reach. The blues and the grays, the mauves and the reds, are second in glory only to the Canyon's size and sculpture. The colors change with every changing hour. The morning and evening shadows play magicians' tricks."

Why does one feel this Canyon so much more intensely than anything else in Nature? Certainly it is not merely the fact that it is twenty miles wide, one mile deep and contains within that vast crevasse in the earth's surface mountains that are really a mile high. It is not

Photo by H. T. Cowling. Reproduced by courtesy of the National Park Service.

VIEW OF CANYON AND RIVER

the immensity of it alone. Perhaps it is due to its depth and its stillness, more than to anything else. Generally, large objects are measured by height or length or breadth; seldom do we think of great depth. Mountains are usually looked up to, not down upon. And then the quiet of the Canyon. From this immense void not a sound emanates. There is a stillness that you can actually feel; I had almost said that you can actually hear. As I look back upon it those are the two deepest impressions left upon my mind — the depth and the quietude.

You may see much of the beauty of the Grand Canyon from its rim, by walking or driving along the fine macadamized road and taking views from such noted spots as Pima Point, Hopi Point and Yavapai Point, but you will miss something if you do not get the thrill of a trip down into the canyon depths. This can be attained on foot or horseback down the Bright Angel trail to Indian Gardens and then extending the walk to the river's edge. Lunch

is had at the Gardens and return to the hotel made in time for dinner; or, it is possible to descend by the Hermit trail, remain over night at the camp and return to the rim next day by the Bright Angel route. The Canyon can be seen in one day, but a week is all too short a time to see it properly and enjoy it thoroughly.

CHAPTER V

SEQUOIA NATIONAL PARK

"Wind of the East, Wind of the West, wandering to and fro.
Chant your songs in our topmost boughs, that the sons of men may know
The peerless pine was the first to come, and the pine will be last to go."

ROBERT W. SERVICE.

ON leaving the Grand Canyon you may feel that any other place you shall visit must necessarily seem tame and insipid after the overwhelming effect of that stupendous marvel; but, it is a curious and remarkably satisfactory provision of Nature that one impression shall give way to another without destroying the value of the one displaced. Mental impressions are not unlike visual impressions. Note how rapidly the human eye photographs one scene after an-

other without the least mental confusion. In the minutest fraction of a second one negative upon the retina has been washed out and another developed upon the same film, and this repetition goes on hour after hour, indefinitely, each picture as it is formed being transmitted to the brain and recorded there in the memory center for future reference; a process of natural perpetual motion.

When storing up impressions of the Canyon you may have used up your supply of superlative adjectives, considering it the climax of all things beautiful and marvelous, and may have wondered whether you should ever again see anything that could so deeply stir your feelings. There was little cause for worry, since an all-wise Providence has so arranged affairs, both as to the relative value of Nature's beauty spots and as to our perception and absorption of these effects, that the lesser is not lost in the greater, but each finds its due appreciation and its appropriate niche in the store house of memory. The Grand Canyon

is entitled to retain its place in supreme command of natural scenery, and yet, in the Sequoia Park you are to see something that will touch you almost as deeply and impress you in a different sense with the majesty and grandeur of God's masterpieces. In the Canyon was delicacy of beauty in the play of colors, grace and strength in the sculpture of the rocks, and size measured in the depth and expanse of the chasm. In the Sequoia Park is beauty of a different type, and strength and size and steadfastness that has to be estimated by another form of measurement. Instead of depth there is height. Instead of a wide expanse of air-filled space there is dense, solid thickness of impervious and impenetrable substance. Instead of material that has slowly given way before the erosive action of the elements there has been steadfast resistance through all the ages to the most violent ravages of the storm king.

The Sequoia is stanch and noble and true. It scarcely bends or sways in the gale; it never

breaks. Lightning strikes it, because it stands exposed above all its neighbors of the tree kingdom, and it loses some top branches or takes on a scar from the burning of its great body, but it does not succumb; instead, it stands as erect as ever and carries its head proudly as one above noticing such indignities. Some violent cataclysm of Nature, or the ruthless hand of man casts one of these giants to earth; it does not die or rot like other trees; not at all, it slumbers quietly like a giant at rest and defies even death.

For more than 5000 years, some believe as long as 8000, these trees have been growing; a very much longer period of time than has been covered by any other thing living on this earth today. Yet, these trees are in prime condition and no man can say whether they may not be in the youthful stage of their allotted span of existence. Just pause for a moment to consider what has happened in the world since these trees were little saplings; you must go back beyond any period of which there is

record; all the known history of the world has been enacted within that time.

Detraining at Visalia, or at Exeter, California, a trolley car ride of twenty miles leads to Lemon Cove, whence automobile stages embark for the Giant Forest, about 40 miles to the eastward on the heights of the Sierra Nevadas. All the way up the San Joaquin Valley the beauty of the fruit farms and ranches will have been impressive and perhaps the diversity of the crops as interesting as any other feature. Oranges, lemons, peaches, plums, apples and grapes predominate, but there is also a great variety of berries and melons. In the region of Exeter and Visalia the vineyards increased in number, since approach was being made to the center of the raisin industry. Lemon Cove, as its name implies, is a side valley or indentation into the foot hills, like a bay projecting from a larger body of water, in which the land has been found especially adaptable to lemon growing. Irrigation is necessary to all this part of the country, the water in this particular

section being taken from the Kaweah River, and a more beautiful farming sight than is afforded by these groves would be hard to find. Thousands upon thousands of citrus fruit trees, lemons, oranges and grape fruit, but mainly the first-named, all set out with the greatest precision in geometrically arranged rows, with wide spaces between the trees absolutely free from weeds, and the bright, glossy green leaves contrasted with the color of the ripening fruit, make a pleasing picture.

The village of Lemon Cove is the starting point for the automobile stage to Sequoia National Park. The machines are comfortable and the roads exceptionally good for mountain regions. Ten miles out is the village of Three Rivers, located at the junction of the north, south and middle forks of the Kaweah, that unite here to form the main stream of this name. The middle fork is the one that is followed almost to its source in the Sierras, near the Giant Forest, and while there is a sprinkling of small ranches along the first few miles,

"WAWONA," THE TUNNELED GIANT REDWOOD OF THE YOSEMITE

the land is so rocky as to prevent their development into anything of much consequence. The Kaweah is a small stream, but the valley or gorge through which it runs has a narrow bottom and widely spreading top, the walls sloping gently upward in a succession of terraces. In consequence of this, it is interesting to observe the changing character of the tree life along the route. Up to an altitude of 3000 feet both slopes are covered with Live-Oaks; thence to 4500 feet is a belt of Black Oaks, Pines, Hemlocks and Firs; at about 5000 feet a few scattered specimens of Sugar Pines appear, and, above 6000 feet, the Sequoia Gigantea, or Giant Redwoods, come in, first in single trees here and there, and then at about 7000 feet, massed in groves.

The greatest giant in this collection, in fact the largest tree in the world, the General Sherman, stands at about 7000 feet above sea level. Its dimensions are: height, 279 feet; greatest diameter, 36.5 feet; circumference, 103 feet. In the same vicinity are many trees

that fall not far short of these measurements. Sometimes they stand quite alone, in majestic seclusion; some of them are united in growth as twins, and there is one instance of three growing in such close union. More commonly they are found in groups of from two to five separate trees. Very near Moro Rock one of the giants fell a few years ago and a platform has now been built up to it, so that an automobile or a coach may be driven upon it and may roam up and down the trunk of the fallen monarch for a distance of 200 feet.

It requires five hours to make the trip from Lemon Cove to the Giant Forest, so the afternoon stage arrives just in time for supper and generally there is then insufficient light to study the trees at all well that day. The first impression of those around the Camp, therefore, is apt to be of shadowy forms of immense trees that seem to rise directly into the skies. Retiring to your tent, after a pleasant hour about the camp-fire, you will gaze up at the heavens and the tufted heads of the Sequoias

will appear to be, literally, among the stars, the uppermost fronds seeming almost to touch them. The solemnity of the scene suggests the feeling of being in the transept of a great Cathedral, an out-of-doors sanctuary, whose largest spires reach straight up into Heaven. Something of this feeling must have been in the mind of Miss Olive Simpson when she wrote the poem that now decorates the Sherman tree, the last quatrain of which reads:

> "When beneath its boughs you're roaming,
> All sacred things seem near;
> The balmy breeze blows through its leaves,
> And whispers, God is here."

Other than the Sequoias there is little to be seen in this park at the present time. Ultimately, it is to be hoped, the Government will enlarge the precincts to take in the similar grove now recognized officially as the General Grant National Park, and, in addition, that large mountainous tract to the north and east which embraces the King and Kern River districts. A Bill is now under consideration for

the placing of all this in what is to be known as Roosevelt National Park, and when this has become an accomplished fact and the Park Service can open it up by the construction of proper roads and trails, another very attractive national park will have been added to our already remarkable series. Mt. Whitney, the highest point in the United States, except in the mountains of Alaska, will lie in this park and be brought into easy reach of the traveler.

CHAPTER VI

YOSEMITE NATIONAL PARK

"Still lakes of silver, streams that murm'ring crept,
Hills, on whose sloping brows the sunbeams slept,
Luxuriant trees, that various forms display'd,
And valleys, grateful with refreshing shade,
Herbs, flow'rets gay with many a gaudy dye,
And woods, and arching grottoes met their eye.
What more than all enhanced those beauties rare,
Though art was all in all, no signs of art were there;
Seem'd as if nature reign'd in every part,
Such easy negligence was mixed with art;
Nature herself, in frolic, might appear
To imitate her imitator here."

(*The Gardens of Armida,* by TORQUATO TASSO.)

THOUGH written three centuries ago about quite a different place, and before the white man had penetrated the wilds of the Sierras, this verse from Tasso's poem aptly describes the beauties and the charms of picturesque Yosemite National Park. Lakes of silver; aye, and of many more brilliant hues according to their depth and the play of sunlight

upon their bosoms or the reflection of clouds, and of the verdure-clad hills, in their pellucid waters. Streams that creep murmuring and streams that sing loudly and merrily as they leap madly over precipices or dash with reckless speed through rocky chasms. Luxuriant trees and gaily colored flowers; the noble, stately pines, spruce and firs that look like giant Christmas trees, and, flowers that range all the way from the dainty violet to the sturdy, vivid snow plant. And woods; who can do justice to the marvelous forest of Redwoods?

Nowhere else on this sphere will you find within so limited an area such an aggregation of grandeur and of delicate natural beauty as is to be seen in this small park, an area of little more than a thousand square miles, yet embracing the majestic peaks of the high Sierras, a most charming mountain valley literally crowded with wonderful scenery, and, a number of the most delicately beautiful water falls in existence. The imposing architecture of

nature displayed in the Cathedral Spires, the Sentinel Rock, or the commanding El Capitan would, alone, make a visit to Yosemite worth while; but there are many other equally interesting things to be observed, the semblance of which may be found elsewhere, but the exact like of which exists here only. Yosemite Falls has no counterpart elsewhere; there are hundreds of Bridal Veil Falls, so called, but none that so well deserve the name as this one; the Merced River may have an equal, but surely has no superior in point of beauty or interest.

Yosemite National Park is located in the western-central part of California, only a night's ride from, and about midway between, the two largest cities of the state, San Francisco and Los Angeles. It covers an area of 1124 square miles and, in the words of John Muir, embraces "The headwaters of the Tuolumne and Merced Rivers, two of the most songful streams in the world; innumerable lakes and waterfalls and smooth silky lawns; the noblest forests, the loftiest granite

domes, the deepest ice-sculptured canyons, the brightest crystalline pavements, and snowy mountains soaring into the sky twelve and thirteen thousand feet, arrayed in open ranks and spiry pinnacled groups partially separated by tremendous canyons and amphitheatres; gardens on their sunny brows, avalanches thundering down their long white slopes, cataracts roaring gray and foaming in the crooked, rugged gorges and glaciers in their shadowy recesses working in silence, slowly completing their sculpture; new-born lakes at their feet, blue and green, free or encumbered with drifting ice-bergs like miniature Arctic Oceans, shining, sparkling, calm as stars.

"Nowhere will you see the majestic operations of nature more clearly revealed beside the frailest, most gentle and peaceful things. Nearly all the park is a profound solitude. Yet it is full of charming company, full of God's thoughts, a place of peace and safety amid the most exalted grandeur and eager enthusiastic action, a new song, a place of

EL CAPITAN AND THE MERCED RIVER, YOSEMITE VALLEY

beginnings abounding in first lessons on life, mountain building, eternal, invincible, unbreakable order; with sermons in stone, storms, trees, flowers and animals brimful of humanity."

The famous Yosemite Valley is but a small part of this wonderful park, a mere crack in its granite mountains, seven miles long by less than one mile wide; but it is the only portion ever seen by the majority of visitors to the region because it is the portion most accessible to the average traveler; yet it is quite true that even in this limited space one can secure a taste of all the various delights hinted at in the above description. The higher Sierras can be reached with comparative comfort and ease in several places, and the recent acquisition by the Government of the Tioga Road, and its opening to traffic, has made it easy for a much larger number of people to enjoy some of the finest mountain scenery in America; but, the Valley will naturally continue to be the chief attraction and the most frequented spot in the

Yosemite National Park. The average traveler wishes to enjoy his scenery without any hardships and at the expense of the least attendant labor. The fact that he can be transported in a Pullman to the very gateway of the Valley and can from there reach his hotel or camp by a comfortable automobile-bus ride, will appeal to the comfort-loving sightseer and the beauties of the higher mountains will be left to the more hardy, ambitious and less self-satisfied individuals.

From San Francisco you may take a night train, by either the Southern Pacific or the Santa Fe Railroad, both pursuing the same course through the San Joaquin Valley, and arrive at Merced early in the morning. Corresponding northbound trains leave Los Angeles early in the evening, delivering their passengers also at Merced in time for breakfast. After breakfast in that city, the Hotel El Capitan having the best restaurant and being only a few minutes' walk from the depot, a combination train is made up and the jour-

ney resumed over the Yosemite Valley Railroad, which runs from Merced to El Portal, a distance of 78 miles. One hour is allowed for luncheon at Hotel Del Portal and the auto-stages start at noon for the Yosemite village, reaching the hotel or camps in about two hours.

It may be noted that all railroad tickets between San Francisco and Los Angeles permit of stop-over at Merced for the side trip to Yosemite and that transcontinental season excursion tickets, even when reading "via Coast Line," will be honored by way of Merced upon request to the Conductor. From either of the cities mentioned special low-priced excursions to Yosemite are advertised at intervals through the summer. All tickets to the Valley include the stage charge from railroad terminals at the park line to the hotel and camps in the village. Baggage checked through to El Portal is re-checked to hotel or camp by the auto-stage line, the free allowance being 150 pounds on the railroads and 50 pounds on the coaches, excess on the latter

vehicles being at the rate of $1.00 per hundred.

From Merced to El Portal, the Yosemite Valley Railroad traverses the picturesque canyon of the Merced River and both sides of that stream are marked by evidences of the placer gold mining of former days. The stamp mills of several of the larger mines now working take their water power from the river, and the flumes, one more than a mile in length, can be seen from the cars. The stage road from El Portal is a hard, smooth macadam pavement constructed by the United States Government, paralleling the river, and for ten miles, to the true entrance to the Yosemite Valley, it runs through a wild, rocky canyon.

In these days, when the automobile is so rapidly becoming a common vehicle of travel, an equally convenient and far more pleasant way of visiting Yosemite is to drive there over the public highway. Of course, to owners of machines this plan quite naturally appeals, but their less fortunate brethren may also find it possible to avail themselves of the privilege

as it is possible for a party of three or more to hire a machine, with services of the chauffeur, and make the round trip from San Francisco for almost exactly the same sum of money required for the rail and stage journey. One night must be spent at some intermediate point en route, but a comfortable hotel bed is better than a sleeping car berth and there are many other obvious advantages; one of these is the possible greater enjoyment of the country traversed, and another is the facility with which one of the famous redwood forests may be visited. The automobile Blue Book for California will furnish the necessary detailed information regarding the route from any part of that State to the Valley, and from San Francisco, for instance, there is a choice of several interesting routes. Thus, one may follow practically the same course as is pursued by the railroad to Merced and then strike eastward into the Valley over the Coulterville Road. Secondly, the Valley entrance may be approached from the north by way of Stock-

ton and the Big Oak Flat Road, visiting, en route, the Tuolumne Grove of Big Trees. Or, lastly, and perhaps best of all, you may continue east on the broad highway to Mariposa and thence to the Valley by the Wawona Road. The last named route is recommended because it affords an opportunity to visit the Mariposa group of redwoods in the park, near Wawona, the finest collection of these giant trees within easy reach, and, because the approach to the Valley from this side gives you the most impressive and comprehensive first view of the Yosemite Valley, that from Inspiration Point.

The Big Trees

Among the many remarkable things to be seen on a trip to California few are more interesting and instructive than the famed redwood trees, at once the biggest and the oldest living things in all the world. The botanical generic name for these trees is "Sequoia," so called in honor of a distinguished

Cherokee Indian Chief, and there are two principal varieties; the Sequoia sempervirens, or true redwood, which grows in extensive forests on the ocean side of the Coast Range, and the Sequoia gigantea, the real Big Tree, which is found only on the western slope of the Sierra Nevada Mountains and usually at an elevation of from 4500 to 7000 feet. Both varieties are evergreens, resembling the pines in general characteristics, with a soft, thick bark of a bright cinnamon color whose beauty is enhanced by the fluted markings of the trunk.

The sempervirens, or redwood of commerce grows in forests along the Pacific Coast from Monterey northward into Oregon and they are especially easy of access to tourists in several places near San Francisco; for instance, at Santa Cruz, or in the Muir woods on Mt. Tamalpias. They obtain a height of 200 feet and a diameter of more than 20 feet in some specimens. But it is the Big Tree, the gigantea, that John Muir denominated "Nature's Forest Masterpiece." Nowhere outside of

California are there any trees that can approach these in size, reaching, as they do in many specimens, between 200 and 300 feet in height and a diameter of 30 feet or more, with a consequent circumference of approximately 100 feet. These figures do not refer to single exceptional trees, for there are actually whole groves of trees having such dimensions. Comparison with some familiar objects may make these figures more impressive to the mind: the tree named General Sherman (in the Sequoia National Park) is 279 feet high; the famous 20-story Flatiron Building at the intersection of Fifth Avenue, Broadway and Twenty-third Street, New York City, is but ten feet higher. The same tree has a diameter of 36.5 feet, which means a circumference of 110 feet and that it occupies a circular area on the earth's surface equal to the inside square of a tennis court. It has been calculated that one of these great trees could be cut into a sufficient number of one-inch boards to completely sheath the Masonic Temple at Chicago, to furnish all the

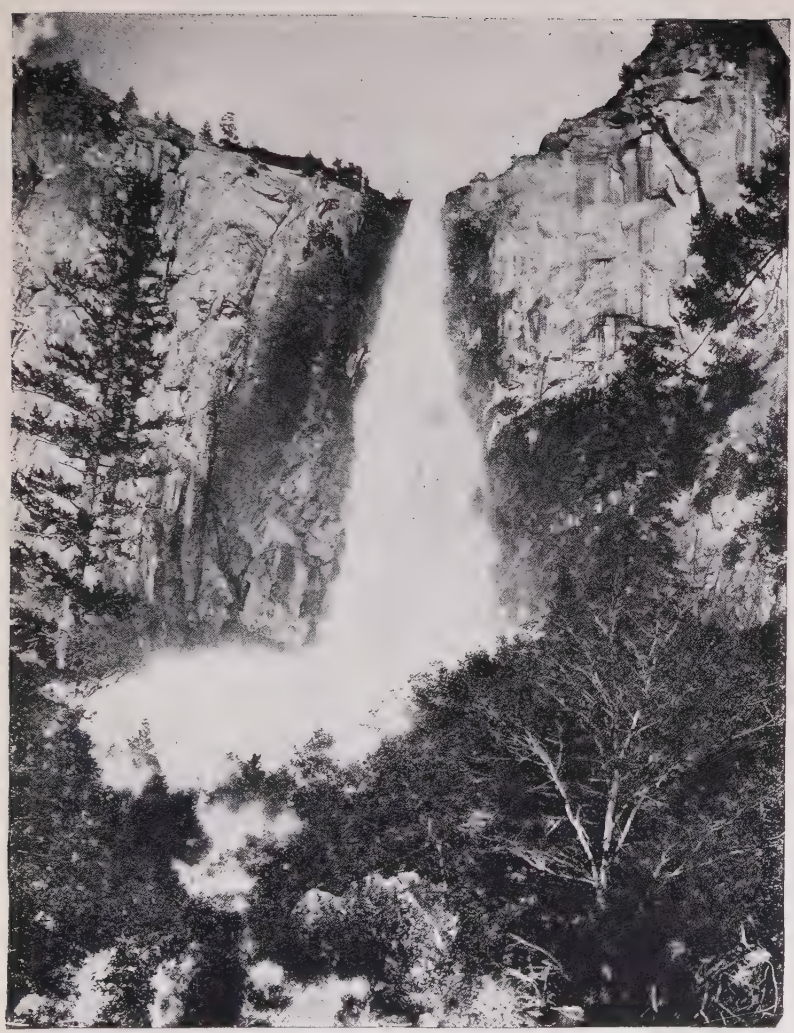


Photo by Cowling. Reproduced by courtesy of the National Park Service.

BRIDAL VEIL FALLS, YOSEMITE NATIONAL PARK

lumber necessary in the construction of a building large enough to house the largest ocean steamer in existence, or, to supply 24 miles of board fence six feet high. A six-horse passenger coach or a large touring car may be driven up and down the length of a fallen trunk of such a forest monarch, and there are several standing, living trees with wagon roads running through arched ways cut in their trunks, the best known of these being the tree named "Wawona."

The enormous size of the redwoods is, however, but one of their many interesting points. It is scarcely less fascinating to consider their antiquity. It seems to have been perfectly well established now that many of them are over 5000 years old (some are supposed to be nearly 8000) and still flourishing. Perhaps they have not yet passed the meridian of their existence for they still possess every evidence of a sturdy, vigorous life. They were hearty growing trees long before the Tower of Babel or the Pyramids of Egypt were built and

they bid fair to outlive many of the most enduring works of men of the present age. Then all the varied beauty and charm of the pine forest, a charm that is for most people greater than that of any other trees, exists in those Sequoia groves. The color scheme of a jungle of redwoods must be seen to be believed, so richly beautiful is it when played upon by the searching rays of the sun.

There are three large groves of giant redwoods in the Yosemite region; the Mariposa, at Wawona, and the Merced and Tuolumne groves on the Coulterville Road and Big Oak Flat Road, respectively, en route to the Park entrance. As already stated, the first named is the best grove to visit for several reasons. The largest trees and the largest number of large trees are, however, to be found in the Sequoia National Park some miles south of the Yosemite Reservation.

Yosemite Valley

From Wawona to Yosemite Valley is a comparatively short trip but a ride filled with

wondrous thrills. For the greater part of the time you are more than 6000 feet above sea level, you feel as if you were riding along a ridge upon the very top of the world, and the changing views of forest clad hills and intervening vales induces a constant succession of the most delightful sensations. One beautiful scene follows another in rapid succession until a grand climax is reached in the first view of Yosemite Valley from Inspiration Point. Words fail to convey any adequate conception of the view from this point. The long valley lies open to inspection as it runs almost directly east and west and the floor of the valley lies some 4000 feet below its towering walls on either side, and has a width varying from less than half a mile to little more than one mile. Consequently, the shadows of the north wall begin to fall across the valley early in the afternoon. The effect is most artistic and from Inspiration Point it appears as one of the most striking nature pictures conceivable. Four thousand feet below lies a beautiful

green carpeted, well wooded valley, threaded by a winding river that maintains nearly a central line. At the upper end of the valley, on the left, is the Yosemite Fall, one of the highest in the world. Nearer at hand, on the same side, is El Capitan, unmistakably the captain, with its smoothly polished sides and its dominance over all other features. On the right side, in the distance, is Sentinel Rock, scarcely less imposing than El Capitan, with its sharp pinnacle of brilliantly lighted, rugged surface exposed to the afternoon sun, while closer on this side is the dainty Bridal Veil Falls. As you watch, the shadows creep slowly across the valley and commence to climb its southern wall and you will find later, when staying in the valley, that it is a favorite pastime to watch the blue shadows creeping up the yellow wall of Old Sentinel, gradually but surely engulfing that mountainous mass until only the very peak is sharply illuminated by the last rays of the setting sun.

A short drive accomplishes the drop from Inspiration Point to the entrance of the valley at its floor level and then as you ride along a perfect roadway, bordered by handsome trees of the fir, spruce and sugar pine species, you may more closely and carefully study the many beautiful and characteristic features of this fairyland. First, on the right hand side of the road, pause to look at the Bridal Veil Falls and you are fortunate if chance discloses this to you for the first time in the late afternoon, for in those hours it generally exhibits a fine rainbow in its spray. The name "Bridal Veil" was given to it because there is always a breeze in the little side valley, or indentation in the wall, where it flows over, that blows the water out from the rocks and causes it to break into a long streamer of spray that gives one the impression of a floating chiffon veil. As this thin spray floats out into the sunshine a perfect rainbow, sometimes a double rainbow, is formed.

As we pass along opposite the Merced River, a beautiful stream of perfectly clear water of emerald green hue, you notice that the rocky walls present many fantastic shapes carved out by glacier action or the erosion of the elements in more recent periods; Cathedral Spires, The Three Graces, Three Brothers, and many others less noticeable perhaps but equally characteristic. Soon, on the left, El Capitan bursts into view at a bend in the road; a massive wall of smooth, dark colored granite rock rising sheer from the river side, straight as an arrow, for 4000 feet. Beyond, the valley widens somewhat and the meadowland beside the river presents a succession of flowers throughout the summer months which add greatly to its charm. Numerous good camping sites exist in this vicinity and these are allotted to visitors, who must first, however, register at the Superintendent's office, situated in the village of Yosemite. Across these meadows you will receive your first clear view of the Yosemite Falls, a beautiful cataract that

drops 2300 feet in three separate leaps; the upper portion of the Falls is 1300 feet, the middle section about 400, and the final drop to the bed of the Merced is 600 feet. The thundering sound produced by this volume of water falling from such a height can be heard for a long distance down the valley and, as there is always more or less wind in the canyon-like recess that it has carved out of the rock wall, the upper section of the cataract is usually seen spread out in a whitened sheet of spray.

Passing through the village, where are located the Government offices, Post Office, general stores and the Old Sentinel Hotel, you may cross a bridge spanning the Merced and, by trail through the woods, approach quite to the foot of the Yosemite Falls. Within a few hundred yards of these Falls a new Camp has recently been established and the plans for a new and modern hotel are in process of development. At the upper end of the valley, on the opposite side of the river and just above

the village, is the well known Camp Curry. These two camps and the hotel, in conjunction with the privilege granted individuals or parties of pitching their own tents, offer visitors every facility for the enjoyment of the park.

Yosemite enjoys the distinction of being the only one of our national parks that is open throughout the entire year. An excellent opportunity is thus presented for American travellers to indulge in winter sports and an increasing interest is being manifested annually in tobogganing, skiing and skating. If this valley may justly be called "fairy-land" in summer, think what a charming scene it presents when decorated by the hand of the Ice-king.

Aside from rambles afoot or drives on the floor of the valley there are a number of mountain climbing trips made available by trails suitable for either horseback or walking expeditions. The most popular of these is the ascent to Glacier Point, at the very summit of the northern wall and commanding a view

Photo by Boysen. Reproduced by courtesy of the National Park Service.

EL CAPITAN IN WINTER

not only over the entire Yosemite region but for many miles over the higher Sierras. A new hotel has recently been opened at this elevated site and every visitor should spend at least one night up there. A quadruple reward is granted those who make this trip. In the first place, the scenery along the way quite repays one for his trouble; the trail is a long one but neither arduous nor dangerous. Secondly, the extensive view of snow clad mountains and high peaks, many over 12,000 feet high, is not to be equaled elsewhere in this country. The third and fourth prizes are the possibilities of witnessing a most effective and sometimes gorgeous sunset and sunrise.

The start for Glacier Point is ordinarily made at 7 A.M., when camp surreys gather up the people from hotel and camps for a ride to Mirror Lake. At this hour, before the sun has gotten high, the reflections in this small mountain lake are quite pretty; Mt. Watkins, particularly, being clearly outlined in the clear, smooth water. The drive is then continued

around to Happy Isles, a series of small, well wooded islands that have been formed by the cutting action of the Merced River, and which constitute a very delightful picnicing ground. Here the carriages are abandoned and the trail climb on foot or horseback commences. The course of the river is followed towards one of its sources and this stream must be crossed several times. At one of these crossings a view upstream discloses the wonderfully beautiful Vernal Falls. The variety of cataracts in Yosemite, each a gem in itself, is amazing. The Bridal Veil and the Yosemite Falls proper have been mentioned, but on this trip you will observe two others, Vernal and Nevada, which are equally as attractive. In fact, there is often discussion in Yosemite as to which of the many falls deserves to be considered most worthy of special honors. Like most other contests of this sort the discussion properly ends in disagreement. Each is beautiful or interesting in its own way. Yosemite is one of the very highest known waterfalls; Bridal

Photo by Cowling. Reproduced by courtesy of the National Park Service.

VERNAL FALLS, YOSEMITE NATIONAL PARK

Veil possesses to a striking degree the characteristics that gave it the name; Vernal is like a miniature Niagara; and Nevada, with its pretty leap clear and free of the mountain (so that you can walk under and between it and the wall over which it flows) to the rocky tableland below, is attractive for its own peculiar style.

Without invidious comparisons, one may honestly say of Yosemite that nowhere else in the world can you find within such a limited and easily accessible territory, so great and so perfect an array of exquisitely delicate and artistic natural beauty. From this point of view it is unquestionably the chief of our National Parks.

CHAPTER VII

CRATER LAKE NATIONAL PARK

"Girt round with rugged mountains
The fair Lake Constance lies;
In her blue heart reflected,
Shine back the starry skies;
And watching each white cloudlet
Float silently and slow,
You think a piece of Heaven
Lies on our earth below."

ADELAIDE ANNE PROCTOR.

THE northwestern section of the United States is no whit less interesting than the southwestern, though there is a striking contrast between the volcanic mountain ranges of the former and the eroded desert land of the latter. Each district presents its own marvels and each offers you the privilege of studying the finest existing specimens of its own particular wonders. In contrast to the arid land of New Mexico and Arizona, the state of Oregon presents a mountain that was swamped by

water. As against the greatest crevasse in the earth's surface, the Grand Canyon, the state of Washington offers the great height and vast glaciers of Mt. Rainier.

Medford, Oregon, is the railroad gateway to the Crater Lake National Park and is reached by a night journey from San Francisco. The route is via Sacramento, thence northward through the upper Sacramento River valley and the Siskiyou mountains, a beautiful hilly country interspersed with well cultivated rich valleys. Medford is a typical new western city, the largest in Oregon south of Portland, and well worth a tour of inspection. All the streets are asphalted, there is a distinct air of business hustle about everything, the hotels, Public Library and the University Club, on the main street, lend an air of substantial progress, and many of the houses are rendered quite attractive by a profusion of flowers in their small gardens and clambering over the porches.

The auto-bus ride from Medford to the park covers a distance of 86 miles; almost an entire day's journey in the present state of the roads but there will soon be a time, not far distant it is to be hoped, when the excellent macadam boulevard that starts eastward from the city will run all the way to the park boundary. The first stage of the trip is through a very fertile fruit growing district, one of the great pear producing regions of the west. The "Modoc Ranch," belonging to Mr. Potter Palmer, of Chicago, is said to contain the largest pear orchard in the world. It is in the valley of the Rogue River and the park road runs along the banks of this stream almost to its source, presenting many glimpses of the river, sometimes close to the road, sometimes at the bottom of a canyon 500 to 700 feet below. At one point there is a view of the Mills Creek Falls (drop of 150 feet), a pretty cascade on a tributary of the Rogue.

As you know, the entire Cascade Range of mountains was once upon a time a series of

active volcanoes. Among the greatest of these were Mt. Baker, Mt. Rainier, Mt. Adams, Mt. St. Helens, Mt. Hood, Mt. Shasta and Mt. Lassens, all approaching 14,000 feet in height. Geologists tell us that there was one greater than all the others, to which they have given the name of Mt. Mazama, which was never seen but is supposed to have occupied the site of this Crater Lake Mountain and must have been 15,000 feet high, judging by the known dimensions of the base, the area covered by the lava outpourings and the angle of the converging lines upward from the base to the probable position of the cone. That it was a volcanic mountain of enormous size there can be no doubt, but, of course, this estimated height is purely speculative. There is, however, evidence on every hand of its great activity in ancient times and you may readily imagine the intense final outburst that blew off the peak. Whether or not this is the true explanation of the destruction of the head of Mazama and the formation of the present large

crater cavity is open to dispute and some geologists incline rather to the opinion that a lateral break occurred somewhere on the mountain side, which permitted the fiery molten lava to flow off in a great stream and that the loss of support within, combined with external air pressure, caused the upper walls of the cone to give way and cave in; the volcano thus swallowing its own peak. This would seem the more plausible explanation.

The smoldering mass buried in the pit of the volcano continued moderately active for a time and produced two or three eruptions of minor importance, in one of which the so-called Wizard Island was formed inside the crater. Wizard Island is in itself a miniature volcano, cone-shaped and with a definite crater in its peak, that was produced in this dying expiration of Mazama like a bubble of escaping gas through a mass of cooling substance of doughy consistency.

The immense crater formed by the collapse of Mazama's peak has a diameter of six miles

and its slightly irregular circumference line measures about 30 miles; while it has a measured depth of 3000 feet. In the course of time, following the end of the glacial period, perhaps, this enormous cavity became partially filled with water, so that there exists today a lake more than 2000 feet deep, surrounded by walls rising abruptly 1000 feet higher to its rim. In the midst of this lake stands Wizard Island, the peak of whose cone does not quite reach the level of the great crater rim, and, another small mass of volcanic rock of such shape and dimensions as to have suggested its name of the "Phantom Ship." Upon the placid, mirror-like surface of this lake you may enjoy the unique experience of drifting about inside the crater of an extinct volcano, studying the curiously constructed inner surface of its walls. The space now occupied by this extraordinarily beautiful body of water was once filled by a sea of boiling liquid fire, an inferno of flame; it was like the interior of a gigantic blast furnace. The precipitous

walls, now cooled off and curiously carved by the rains and snows and melting ice of past ages, disclose fantastic forms as the rock has been cut into pinnacles and domes, into jutting promontories and receding caves, separated in some places by a broad area of smooth, sandy planes where a land or snow slide has swept everything before it. Then, imagine these wonderfully carved walls painted by the Master artist in all the soft, delicate shades of color known to Nature; all the tones of gray, of the pale greens and yellows, the orange and old rose tints. Nor is all of this rocky wall bare. By no means. Probably one-fourth of it is well wooded, having a growth of pine and cedar and fir; handsome specimens of the latter that must be at least 500 years old. Under the bright sunshine, with masses of white clouds overhead and the deep blue of the lake beneath you, the play of light on the dark green of the trees and the lighter colors of the rock and sand, constitutes an ever-changing color spectacle that baffles description.

There is a good, easy trail from the hotel, Crater Lake Lodge, over the rim and down to the water's edge, where boats may be obtained for a trip to Wizard Island, the Phantom Ship, or around and about the lake. From this trail, which is one and a quarter miles long in order to attain the drop of 1000 feet from rim to lake surface, many beautiful vistas may be obtained. Resting places have been made on projecting rock ledges, under the shade of great fir trees, and the walk, either down or up the trail, is thus made a pleasurable experience. An excellent driveway is now in process of construction around the lake, so that it will soon be possible to drive an automobile entirely around the rim, the distance covered being about 36 miles. At many points the roadway will touch the rim at its higher spots, affording excellent views of the lake from the best vantage points. This trip, combined with the excursion on the lake will bring you in close touch with all the marvelous beauty of the region. Trails are also being built to the tops

Photo copyright by Fred H. Kiser, Portland, Oregon.

THE PHANTOM SHIP, CRATER LAKE NATIONAL PARK

of some of the neighboring mountains that command good views of the lake and the country in all directions for many miles. From Garfield Peak, to the east, or the Watchman and Mt. Hilman, to the west, it will be possible to look over the Lake Klamath region to Mt. Shasta in the south; over a goodly part of eastern Oregon; and over the Cascades for fifty miles west and north. A trip to this park will not, therefore, be limited to inspection of Crater Lake, but will afford the opportunity to climb mountains or to make side trips to many other interesting points, such as Diamond Lake, Sand Creek Canyon (with its hundreds of curious sandstone pinnacles like ghosts), and the Klamath Indian Reservation.

The hunter, as well as the nature lover, will find this an interesting field. Crater Lake is stocked with rainbow trout. The streams and marshes of the Klamath country abound in wild bird game, and bears and deer roam all over the nearby forests. Crater Lake having been formed in the manner described, and hav-

ing no connection with other bodies of water; having neither inlet nor outlet, save for the receipt of rain and snow and the escape of water by evaporation, there was, naturally, no life in its waters. Some 30 years ago, the Hon. William Gladstone Steel, the "Father of Crater Lake Park," a man whose name means much to every one interested in the establishment and development of our National Park system, introduced the rainbow trout to this lake, carrying them in a tin pail all the way from Medford. There was only an Indian trail in those days and it required three days to cover the distance by walking. Frequently on the way he stopped at springs to change the water on his little fish and at night he would bury the bucket at the edge of a stream, in such way that it could receive a gentle inflow of water, but the fish could not escape. Starting with two dozen, he succeeded in getting more than half of them to the lake alive, where he set them free in its waters. It was a long time before they were heard from again, but

eventually his experiment proved to have been a success, and today there is an abundant supply of trout in this lake. Tourists are allowed to catch not more than five in one day. Mr. Steel continues his interest in the subject and is still engaged in studying the best means of feeding them; it being necessary to maintain a supply of crawfish or minnows for them to feed upon because the waters are free of all other life.

The Klamath Indians held a superstition that the lake was inhabited by marine monsters and they have handed down an interesting legend concerning one of the high points on the rim. They believe that this rock was the abode of Llao, a powerful demon who held sway over the mysterious waters of the lake. His retainers were mighty crawfish that could seize in their cruel claws any who dared to appear on these heights. Against this powerful Chieftain was arrayed an equally strong spirit named Skell, who dwelt in the neighboring Klamath marshes and who waged unrelent-

ing war upon Llao. For a long time Llao proved triumphant and once, having captured Skell, he tore his heart out and gave it to his minions to play with. They hurled it from peak to peak of the mountains in wild sport until one of Skell's eagles made a sudden swoop through the air and, catching the heart-ball, flew away with it. Being chased too hotly, he passed it to a friendly deer who ran with the speed of the wind and, together, this pair succeeded in carrying Skell's heart to a place of safety. Here a new body for Skell was miraculously grown about his heart, and once again he set forth ready to do battle with his old enemy. This time he resorted to cunning and, from ambush, he one day captured Llao, cut him into shreds and cast him into the lake. The hungry crawfish, surprised by this unexpected shower of food, and supposing it to be some of the demolished remnants of Skell or of his cohorts, cast to them by their own Chief, proceeded to devour their leader and did not discover the error until Llao's head was thrown

Photo by Kiser, Portland, Oregon.

CRATER LAKE TROUT

to them as a final morsel. Then, in sheer horror and grief they all died. The head of Llao remains as an island (Wizard Island) in the lake but the whereabouts of Skell are at present unknown.

The beautiful, wonderful, incredible color of Crater Lake water has been reserved for consideration until the last word. Much of the fascinating beauty of this lake, walled about with rainbow colored cliffs, is due to the unusual blue of the water. In attempting to describe this color one is stumped by the fact that there is absolutely nothing with which to compare it. It is not the blue of the sky nor of any other body of water; Lake Tahoe, in California, resembles it. It is not the blue of indigo nor of any other known chemical substance. It is not a fixed and permanent shade of blue under all circumstances, but, while always rich and beautiful, varies under changing conditions of light from the palest imaginable blue to the deepest royal blue, shading off into a purple that is almost black. It may exhibit

all these tints within a few hours. With a fog hanging over the rim and dipping into the crater, and a light wind rippling the surface, you may see the dark blue center bordered by an area of bronze, while near the shore line the indigo hue shades off into an emerald green. When the fog lifts and the sun comes through the light clouds, the whole sheet of water becomes a navy blue. When a rise in the wind produces some white-caps on the lake surface, the light transmitted through these waves will give a delicate, soft light-blue like the cerulean heavens.

It is said that all large bodies of perfectly clear water will be green in the shallow portions and blue in the greater depths. This is well demonstrated at Lake Tahoe, where all gradations from pale green, in close to the shore, to a very dark blue, in the middle of the lake, is seen. At Crater Lake there is very little shallow water to study; ten feet from the shore will, in most places, give a sounding of 1000 feet or more depth. Consequently, there

is but a very narrow streak of greenish water ever observable from any point, and the exceptional depth of the entire lake gives it a marvelously blue color.

Remember that there is no lake its equal in depth; no other lake of such size occupying the crater of an extinct volcano; no other lake surrounded by such artistically colored, rugged mountain walls; and no other body of water of such a wonderful, indescribable blue. This coloring, varying from a faint turquoise to the deepest indigo blue, makes Crater Lake one of the most beautiful spots in America.

CHAPTER VIII

MT. RAINIER NATIONAL PARK

(Mt. Rainier: "The Mountain That Was God")

"Let me often to these solitudes
Retire, and in Thy presence reassure
My feeble virtue. Here its enemies,
The passions, at Thy plainer footsteps shrink
And tremble and are still."

A. H. Barnes.

"THE mountain that was God." That is the old Indian appellation for Mt. Rainier and it is an elegant and appropriate name. In their superstitious state they looked upon it with suspicion and fear, dreading what it might do to them, considering it a power for evil ready to wreak vengeance upon them if they dared approach it too closely or failed to exhibit proper reverence for its majesty. Our boasted intelligence and education has not

entirely disposed of that inherent sense of awe which the human being experiences when coming into the presence of such a serenely sublime, God-like mountain; a mountain that, unlike most others, stands quite alone, a giant in stature (14,408 feet tall) with his feet firmly planted on the broad plain of the Pacific Coast, the upper two-thirds of his body clothed in a snowy white garment, with faint stripes of pale green, blue and red shot through it, and wearing on his head a smooth pearly white cap that glistens and scintillates in the bright sunshine of Heaven. The Indians feared it because of its bad days, those days when it emitted flame and smoke and ashes, and produced devastation in the immediate surroundings. The white man worships it, not alone because of its transcendent beauty, but, because the lava ash it once threw out is now recognized as most fertile soil, and the immense snow and ice fields that cover its sloping sides supply water for the farms and factories in a vast area of the northwest country. Every

year its dispensation of benefits increases and a rapidly growing population receives largess directly or indirectly from it. Every year, too, it claims its victims as well. Occasionally it behaves like the fabled God that must be propitiated by human sacrifice; not infrequently some mountain climber walks into a snow-covered crevasse on one of its glaciers and is lost. The old Indians could not be induced to walk upon these ice fields; their successors on the stage may be wiser but are often more foolhardy and, sometimes, pay a dreadful penalty for braving the ice-demon. Perhaps there are two powerful agencies at work on this mountain; a God that dispenses bounties and blessings, and a Demon that punishes the careless and foolish.

Mt. Rainier is most easily approached from Tacoma or Seattle by fine automobile highway, or by railway to Ashford, whence an auto-stage runs to and through the park. Six miles from the park entrance is the first stopping place—Longmire Springs. If you are

equal to it, leave the coach at the entrance to the park and walk to Longmire. The roadway is lined by handsome Pines, Hemlocks, Firs and Spruces, is completely shaded, and the walking is cool and pleasant on even the hottest days. The Fir tree predominates and some specimens of the Noble Fir attract special attention, rising as they do in many instances to the height of 200 feet, straight as an arrow, and without a limb lower than 100 feet from the ground. Glancing between the trees you will observe that the forest on either side of the road is very dense, almost jungle-like in the close growth of these trees and the mass of underbrush, moss and ferns. There is a great deal of fallen timber and here and there lies a giant tree, a monarch of the forest that in his fallen state looks like a Brobdignagian Giant become victim to the Lilliputians, for it is literally covered with a new growth of moss, ferns and small shrubs.

In the first three miles of this walk you will cross two mountain streams, Tahoma and

THROUGH THE FIR FOREST TO MT. RANIER NATIONAL PARK

Kautz Creeks, both rushing torrential streams of milky-white water, from the glaciers bearing those same names. As Longmire Springs is approached, the great mountain comes into view for the first time at Bear Point, at a bend in the road, and as it suddenly appears through a vista in the tree-lined way it makes an inspiring picture.

James Longmire was one of the early prospectors in this region and on discovering some mineral springs with health-restoring properties, he staked a claim and secured proprietary rights to a section of land on which they are located. This site has recently been leased by the Rainier National Park Company and a small, modern hotel, the Longmire Hotel, has been erected for the entertainment of healthy tourists, as well as those who desire to avail themselves of the healing powers of the waters from the iron and sulphur springs. Almost directly opposite is the National Park Inn, a very comfortable, home-like hotel, from the front porch of which you may have a very good

view of the south side of the great mountain.

Under the influence of that demoniac spirit that causes American travelers to rush through to the *main* place, or to the great climax of their journey, a large percentage of those visiting this park pass Longmire Springs, or stop only long enough to have a meal or a night's lodging, and go straight to Paradise Valley. In doing so, they overlook the fact that some of the most important trails in the park start from this village and lead to much of Rainier's grandest scenery. The tramp has every advantage over the tourist who sticks to the transportation companies. The proper way to see Rainier is to send your bags from one hotel to another by stage, and for yourself—walk. The most inviting trails branch off from the road in every direction and most of these lead to glorious discoveries. You should make one of the above mentioned hotels your headquarters for a week and walk over the roads and trails to the most important places in this park.

To harden your muscles and prepare for the longer tramps, spend the first few days in visiting the nearest places of interest. First, follow the highway to Nisqually Glacier, a distance of five miles; the foot of this glacier is not very pretty, being so dirt-covered as to appear rather unsightly. Then, on successive days, make the ascent of the Ramparts, a rocky cliff that bounds the west side of this plateau, and of Eagle Peak, that rises majestically on the east. There is good trail to each of these points, the last named being rather steep, and the rewards are wonderful views of the surrounding country. It is like gazing down from a height upon an immense relief map. Mountains and more mountains, in every direction encircling and covering the land within a radius of fifty miles; the great snow-capped, symmetrical peaks of Mt. Adams and Mt. St. Helens standing out especially prominent.

Being prepared for the longer trails and higher climbing, the two most enticing trips to

consider are those to Van Trump Park and to Indian Henry's Hunting Grounds. The first is reached by following the road almost to the foot of Nisqually Glacier, leaving the highway and striking into the woods at the base of Christine Falls, a very charming little cataract where Van Trump Creek empties into the Nisqually River, and climbing over the shoulder of Cushman mountain. The trail follows the course of the stream and there are several picturesque views to cheer you on as you must climb something like 2200 feet in the first two and a half miles. There are beautiful glimpses of deep granite walled canyons, cut out by the erosive action of the descending waters, and a succession of cascades, while vistas open now and then to disclose snow-capped peaks of the Tatoosh Range of mountains. Near the head of this trail is the Comet Falls, perhaps the most beautiful water fall in Rainier Park. It has a drop of 200 feet and does bear some resemblance to the tail of a comet.

Van Trump Park is one of the three great natural park-like areas on the south slope of the mountain and, like Indian Henry's and Paradise, constitutes a vast flower garden at the very edge of the glaciers and snow fields. It presents an excellent view of the mountain, with Nisqually glacier to the right and Kautz glacier on the left, and all about on the vast green plain grows a profusion of vari-colored flowers. White and yellow Avalanche Lilies, the gorgeous red Indian Paint Brush and the Blue Lupines bloom in great patches, and small patches of Heather add to the color scheme. At this point the great snow cap of Rainier seems so close that you might almost touch it; so wonderful are the proportions of this mountain, it is difficult to realize that its near peak, Peak Success, is really 9000 feet above you.

There are three trails leading into Indian Henry's Hunting Ground; one follows the course of Tahoma Creek, just within the park entrance; a second starts in the vicinity of

Kautz Creek, where it crosses the highway; and the third, and most generally used, begins at Longmire Springs about half a mile beyond the hotels. Horses may be obtained from the Transportation Company but the trail is not difficult to the average healthy individual. It is a typical zigzag mountain trail, rising 2800 feet in the course of seven miles and crossing the upper part of Kautz Creek and two of its tributaries, Pyramid and Devil's Dream Creeks. Near the upper end of the trail snow will be encountered in small patches and mosquitoes in large flocks; incidentally, the mosquitoes of the higher mountains are smaller but more vicious than the much slandered Jersey variety and they conduct their business operations at all hours; they are not at all deterred by cold, but seem to operate with equal facility and persistency in the woods or upon the glaciers.

At the head of the trail you come suddenly upon a broad, expansive green plateau and all the beauty of this "park" bursts upon the

vision. It is, indeed, a sight never to be forgotten. Imagine a vast grassy lawn, of that rich green of English lawns, with a rolling surface dotted here and there with small lakes and with hillocks that are crowned with clusters of Alpine Fir and Cedar; while the sloping sides of these little hills are covered with flowers and the whole garden is surrounded by mountains, the chief of which, of course, is the snow-capped, towering peak of Rainier. At the distal border of the park, or garden, is a lake to which the name of Mirror has been given because its very smooth surface perfectly reflects every detail of that portion of Mt. Rainier that faces it. As I saw it, the south bank of the lake was still covered with snow, there was a mass of blueish green ice in the water along the shore, the north bank was carpeted with Avalanche Lilies, Red Paint Brush, Blue Lupines and Yellow Buttercups, and the great mountain was perfectly mirrored in the smooth, shallow water. It was by all odds the most peaceful, restful, delicately

beautiful scene I had ever found. Paradise Park, of which you will hear more, has a more attractive name, and is appropriately named; but it contains no single spot to compare with this section of Indian Henry's.

The old Indian Henry Camp has been abandoned; but there must, inevitably, some day be established here a modest hotel or chalet for the accommodation of guests who desire to remain more than a day in this fantastic Christmas garden, or, at least, to spend a night in order to witness the glory of a sunset or sunrise from such a vantage point. No elaborate hotel is required, nor in fact is such a thing desirable, but a few comfortable beds and provision for simple, wholesome meals can readily be supplied at small cost to those who will patronize the place; something in the nature of those delightful little Swiss cottage hotels that make touring in the Alps so pleasing.

Having absorbed sufficient joy from the trips round about Longmire's, you will be

GLACIAL CREEK, MT. RANIER NATIONAL PARK

ready to move up into Paradise Park. Here, again, there are two ways of proceeding: an auto-stage makes the trip over one of the best constructed mountain roads in this country, covering the distance of 14 miles in one hour; and, the trail through the woods is open to pedestrians, the distance thus being shortened to six miles, that may be easily traveled, by even a tenderfoot, in two or three hours.

Passing the lower end, or "snout," of Nisqually Glacier, and crossing the head of this river, the road doubles back to the south, but on the east wall of the Nisqually Valley ascending steadily to the top of this ridge, and then, turning sharply, enters the valley of the Paradise River. The name of Ricksecker has been given to this point, in honor of the engineer who built the road, and from this position the entire Nisqually Valley lies open to view. At its head is Mt. Rainier, with the ragged, crevassed Nisqually Glacier covering this slope, the ice-mass of the lower part being mixed with a large amount of crushed rock

so that it resembles rather a mountain of dirt than a typical glacier, while, looking down the valley the river can be traced for quite a distance, as it flows through a granite walled canyon carved out in the course of passing years. On either side the canyon walls rise to the height of 1000 feet and the turbulent stream is still rolling down pebbles, and even good sized boulders, and carrying so much soft silt and white clay that it presents a decidedly milky hue. The road, following the course now of the Paradise River, winds upward in a snaky manner, making four crossings of the river as it tumbles down from the glacier at the head of this valley. The principal cataract of this river, the Narada Falls, has a drop of 150 and a width of 50 feet, as it spreads out over the smooth rock wall of a narrow, deep canyon. In the bright morning sun, rainbow colors flit about in the spray that is dashed, by the wind, clear across this canyon. At the second crossing of the river the water is seen descending in a series of beautiful cascades, to

which the name of Washington Torrents has been applied. At an elevation of 5000 feet the road turns around a rocky promontory and suddenly discloses, several hundred feet below, a wide, fairly level valley, through the center of which the upper Paradise River meanders quietly. On a plateau 500 feet higher than this flat is Paradise Valley proper, where the Inn and Camp of the Clouds are situated, and, more important, where you will find one of the grandest and most inspiring sights imaginable.

The floor of Paradise Valley is 5,557 feet above sea level; the crest of Mt. Rainier has an altitude of 14,408 feet; so vast is the spread of this massive mountain, so graceful are the curves of its ice-covered slopes, so gradual are the inclinations from base to peak, and, so clearly are the colored strata of the upper portions of the rock visible in the rarified atmosphere, that you will find it difficult to believe that Success Peak towers nearly 9000 feet above you. Almost in the center of the valley is a wedge-shaped hill, the highest point of

which, Alta Vista, reaches an altitude of 6000 feet and directly faces the mountain. This hill is grass covered, well watered by the snow that remains upon its surface even late in the summer, and its western slope is one mass of brilliant flowers. Here the Avalanche Lily is found in perfection, large blossoms of purest white with golden centers; the Indian Paint Brush has the deepest shade of red; the Lupine presents the brightest blue, and distributed about are areas of Golden Yellow Roses, White Anemones and Pink Asters.

From Alta Vista, Mt. Rainier confronts the onlooker not as the mountain "that was," but the mountain "that is" God—beautiful, glorious, noble beyond the power of words to describe. Glaciers radiating on every side, spread downward from its peak, sending forth, as they melt, life-giving streams to the plains below. The pale-green shades of the crevassed glacial ice, the kaleidoscopic colors of the exposed portion of rock and the ever-changing cloud effects in the sky, added to

the marvelously fine flowered carpet of nature, make this a veritable land of enchantment. To the east, west and south is an imposing array of other mountain peaks circling about Rainier like an attendant body of respectful, dignified and noble courtiers. The grandeur of these neighboring pinnacles is in no sense impaired or diminished by the dominance of the superbly royal master. As the glory and honor of a great Chief is reflected upon his worthy followers, so the peaks of the Tatoosh Range seem to take on a nobility of character that is enhanced by their proximity to, and the leadership of, Rainier.

The ascent of Mt. Rainier is one of the most delightful and thrilling mountain climbing experiences available to Americans at home. The trip is made from Paradise Inn, under the care of experienced guides and, while it is not to be taken lightly and without knowledge that it requires acceptance of some hardships, still it is not beyond the ability of the average healthy individual. The start is

usually made now in the afternoon, so that Steven's Glacier may be crossed and the Shelter House reached before nightfall. Here, at the base of "Gibralter" rock, the hours of darkness are spent more or less comfortably, and at daybreak the hard part of the climb commences. The party is roped for passage of the dangerous places and then the walk across the great snow field at the top is simply an arduous task, to be rewarded by the wonderful view and the marvelous thrill to be obtained at "the top of the world."

CHAPTER IX

GLACIER NATIONAL PARK

"The mountains of this glorious land
Are conscious beings to mine eye,
When at the break of day they stand
Like giants looking through the sky,
To hail the sun's unrisen car,
That gilds their diadems of snow;
While one by one, as star by star,
Their peaks in ether glow."

JAMES MONTGOMERY.

GLACIER NATIONAL PARK is a place where, to your heart's content, you may wander in the great pine woods, tremendous forests, that are fragrant with wild flowers as well as delicious resinous odors. It is also a place where you can spend much of your time in, about or upon the water, for there are said to be 250 lakes within its domain and there are innumerable streams of all sizes, from the icy rill at the foot of a glacier to rushing rivers that carry the accumulated

waters off to the sea. There are seductive creeks in which you may angle, with every prospect of success, for the sporty mountain trout; icy-cold rivulets from the snow fields and springs from the hillsides, to allay your thirst as you follow the trails; shallow pools heated by the sun to a temperature that makes bathing a greater delight than it can ever be in a porcelain tub, and larger bodies of water upon which to indulge your propensity for rowing, to float in a canoe on moonlight nights, or, which are traversed by little passenger steamers plying between tourist centers.

Does it sound good to you? A very simple recital of the facts in this case should be sufficient to induce any one to desire the trip out there. Glacier Park is unique among our playground reservations and more nearly resembles the Swiss Alps than any other part of this country. It has an area of more than 1500 square miles of untamed, rugged, stern mountains with scores of peaks having an altitude greater than 10,000 feet, dozens of glaciers and

hundreds of charming lakes. Wild, why there are numerous mountain peaks there as yet unclimbed and thousands of acres upon which the foot of white man has probably never yet trodden. The Rocky Mountain Park, because of its proximity to the large middle western cities, and its easy access even for the people of the Atlantic seaboard, may draw always the larger number of annual visitors, but Glacier Park must continue to grow in popularity until it challenges supremacy on this point, for no other park can compare with it in rugged grandeur nor in facilities for the enjoyment of nature at its best, in the rough, and at moderate expense.

The Great Northern is the only railway that reaches this park, and, in passing, it may be observed that this Company, and especially its President, Mr. Louis W. Hill, deserves much credit for developing the park with its excellent hotel and transportation system. They have done nearly as much as the Government to make the trip to the park and living

therein comfortable. Express trains touch the Park's southern boundary at two points: at Glacier Park Station at the southeast corner, and at Belton, near the southwestern. Dropped from the train at the first named station, you enter a magnificent hotel that is prepared to offer all the comforts and luxuries of the most elaborate of modern city houses; New York can scarcely do any better by you. There you decide on how you will make the trip through the park, for there are not only several modes of travel, but at least three different ways of boarding while making the journey.

The first of these comprises life in the grand hotels, for there is another of the same type referred to, the Many Glacier, on Lake McDermott, at the distal end of the automobile highway, and the making of short excursions while using the hotels as headquarters. The second method consists in living at the Swiss Chalets, located at various points in the park, and where living is on the American plan and

at the uniform rate of $4.00 per day. The third is even more economical and more in harmony with the surroundings, though it will not appeal so strongly to those not accustomed to out-of-doors life; that is, to rent at each stopping place an Indian teppee and to do your own cooking. These tents may be rented at the rate of fifty cents per bed a day and the Chalets permit the use of cooking utensils at a public kitchen completely equipped for the purpose. By purchasing the raw food, preparing your own meals and sleeping in the teppee it is possible to travel through this park at a cost of about one dollar per day.

The Automobile Highway, starting from Glacier Park Station, runs over the Black Feet Indian Reservation for thirty-two miles to St. Mary's Lake, and then, coursing around the northern arm of this lake and crossing the St. Mary's River, finds its terminus at Many Glacier Hotel on Lake McDermott. Within ten miles of the starting point there are two branch roads leading from the Highway to

Two Medicine Lake, with its Chalet group, and, to the Cut Bank Chalets on the Cut Bank River. Otherwise, and to all other points, travel in this park must be by trail, save in regard to the trips from St. Mary's to Going-To-The-Sun Camp, and from Lewis' Hotel to Apgars on the road to Belton, where boat trips are possible.

Only a short distance from the Glacier Park Hotel the first branch from the Highway turns westward, winds around the lower Two Medicine Lake and follows Two Medicine River to the Chalets at the outlet of the lake lying at the foot of Rising Wolf Mountain; the distance traversed being about twelve miles. The lake is hemmed in by splendid peaks averaging nine thousand feet and bearing such euphonious names as Old Grizzly, Rising Bull and Appistoki. Rising Wolf was the Blackfeet's name for Hugh Monroe, of the Hudson Bay Company, who came among the tribe in 1815 and is said to have been the first white man to enter Montana. The

Chalets at Two Medicine form an attractive group of low structures consisting of one large building that serves as reception hall and dining room, several dormitory Chalets capable of accommodating one hundred guests, a bathing establishment and an electric power house. Boats may be hired for fishing or other sport upon the lake, and there are several interesting side trips such as climbing to the summit of Dawson Pass, or visiting Appistoki, Running Eagle or Twin Falls.

Cut Bank Chalets lie in the mountain sheltered, forested valley of the Cut Bank River, at the terminus of the second branch road from the Highway and about twenty-two miles from Glacier Park Hotel. The Cut Bank River is said to offer some of the best trout fishing in the park and, in consequence, these Chalets are the particular rendezvous for anglers. The hotel accommodations here are of the same type, though not quite so extensive, as those described for the preceding group.

The Highway runs across the fairly level

plateau on the western border of the Blackfeet Indian's Reservation for about 25 miles until Divide Creek is reached, when it cuts into the mountain range and meanders through a wooded gorge to Lake St. Mary's. It may fairly be said that this lake is the center of attractions in Glacier Park. It lies midway between the entrance and Many Glacier Hotel at the northern terminal. It affords connection by regular passenger boat service with Going-To-The-Sun Chalets, and from these two points connection can be made with all of the park trails. It is one of the most beautiful mountain lakes in all the world; a moderately deep lake of vivid green water, with an average width of one mile and an extreme length of ten miles, closed in upon all sides by mountains that rise abruptly from its shores. It is, in fact, a basin of water whose rim at many points is one mile higher than the surface of the contained water. Here are Kootenai, Singleshot, Whitefish, Goat and Red Eagle Mountains, beside many lesser peaks.

From St. Mary's Chalets the Highway follows the shore of Lower St. Mary's Lake, crosses the river just below the lake outlet and then pursues the Swiftcurrent River past Sherbourne Lake to Many Glacier Hotel on the banks of Lake McDermott. The dominant peaks here are Mt. Wilbur, Mt. Altyn and Grinnell Mountain, and, from the hotel porch no less than five glaciers are within range of vision. No spot in the park offers a more satisfactory headquarters from which to make a series of short excursions. One of the most interesting of these is a trip to Iceberg Lake, seven miles by trail, where the formation and distribution of icebergs may be closely studied. Nestling under a shoulder of Mt. Wilbur, here is an expiring glacier, small remnant now of what it once was and daily crumbling away. Nearly every day, in the warm months, masses of ice break off from this field, drop into the lake and float out on its bosom. Sometimes these pieces are small, occasionally they are quite large enough to

sustain afloat the weight of two or three persons. Under the sun's heat these bergs soon melt and the water runs off from the lake by a rivulet that empties into Lake McDermott. The hardy may wade out into the lake and enjoy a ride on an iceberg, or capture and drag one to shore. If interested in the construction of a glacier, and one means by which it acts, here is opportunity to study it at very close range, the glacier being approachable without danger.

But, the real glory, the indescribable beauty, the most wonderful scenery of the Rockies is reserved for the tramper who will follow afoot the trails over Swift Current Pass to the Granite Park Chalets and over Gunsight Pass to the Blackfeet Glacier. The trails in Glacier Park are good, none of them will prove seriously taxing to one of ordinary strength and none present any special dangers. On the subject of tramping John Muir has said: "Few places in the world are more dangerous than home. Fear not, therefore, to try the mountain

Photo by Cowling. Reproduced by courtesy of the National Park Service.

AFLOAT ON TWO-MEDICINE LAKE, GLACIER NATIONAL PARK

passes. They kill care, save you from deadly apathy, set you free and call forth every faculty into vigorous, enthusiastic action." Anything that is worth having is worth working for and the best of this park is available only to those who are willing to exert themselves to some degree.

It is possible to cover all the important places in the park in a definite tramping trip, traveling without baggage and stopping at nights at the Chalets. The distance traveled in any one day need not be great, never over twenty-five miles, and the only supplies necessary to carry will be lunches and toilet articles. As an itinerary the following is suggested: starting from Glacier Park Hotel one day may be given to each of the following walks:

1. To Two Medicine Lake by trail over Squaw Mountain and Mt. Henry, a distance of about eighteen miles. Two small streams, where good drinking water may be obtained, are crossed, the first on the slope of Squaw and the second in the valley at the foot of

Henry; but after the climbing begins there is no water on either side of Henry until one descends into the valley of Two Medicine Lake, along the course of Appistoki Creek. The ascent of Henry is steep and the descent both steep and rough, but at various points along the trail there are fascinating views of the lower and middle members of this chain of three lakes.

2. From Two Medicine Lake to the Cut Bank Chalets. For five miles this trail runs through Dry Fork Canyon, where forest fires have created devastation, but the three pyramidal mountain peaks, Flintsch, Morgan and McClintock, at the head of the valley, hold one's interest and prove so enticing that the walk seems easy. On this side of the Cut Bank Pass is a vast amphitheatre in which nestles a marvelously beautiful lake having a center of the darkest blue and a border of pale green water. *It is one of the most beautiful spots anywhere in the world.* Climbing over a shoulder of Mt. Morgan, descent is

made into the Cut Bank River Valley, passing beside a series of three beautiful lakes, which constitute the source of this river, and through several well wooded parks and green plateaus. The trail is about twenty-four miles long and the river has to be forded a dozen times within the last few miles of the approach to the Cut Bank Chalets.

3. From Cut Bank to St. Mary's Lake by trail is all of thirty miles and as it presents nothing of sufficient importance to compensate for the exertion it is better to make the trip by walking five miles back to the Automobile Highway and then traveling by stage to St. Mary's.

4. The trail from St. Mary's to Going-To-The-Sun Camp follows closely the lake shore line for the entire distance of nine miles, affording many glorious views of this beautiful body of water.

5. From Going-To-The-Sun to Many Glacier Hotel over the Piegan Pass is approximately twenty-two miles and one of the

most charming trails in the park. The first five miles is along the eastern shore of the lake and thence the climb to Piegan Pines is by a well-graded ascent. There is plenty of water along the way from the numerous streams draining the glaciers above and there are numerous good views of the Blackfeet Glacier off to the west and of the smaller ones on Piegan and Gould Mountains. From the top of the pass one looks down into Grinnell Lake and descends into the valley by a steep and difficult trail, footing being insecure in the loose shale, the switch-backs being long and angular, and the sun beaming down upon one, for there is no shade for at least five miles. Such discomfort is, however, soon forgotten, swallowed up in the constant succession of scenic effects.

6. From Many Glacier Hotel to Granite Park Chalets, by way of Swift Current Pass, is only nine miles, but every one of those miles is crammed full of exhilarating beauty. The trail follows up the forested valley of the Swift Current River to its head, then scales

the face of Swift Current Mountain, to the top of the pass at 6900 feet, crossing the Continental Divide and affording one of the most fascinating experiences of mountain travel. If the atmosphere is clear you may from Lookout Point study all the peaks and waters of the Swift Current Valley, its river and Lakes McDermott and Sherbourne, and look out over the Blackfeet country for a distance of nearly a hundred miles. This is looking toward the Atlantic side of the divide. Go to the opposite side of the pass and you command a view of the Livingston Range, Mineral Creek and McDonald Lake Valley, and so overlook the beginning of the Pacific Coast Country.

7. From Granite Park over Logan Pass to Going-To-The-Sun Camp; twenty-four miles of magnificent scenery. Granite Park Chalet occupies an open space on top of the mountain and the wind whistles about it furiously at night; but, if one is fortunate enough to witness a sunset or sunrise from this point

any possible discomfort will be considered worth while. Having started from so high a point, this day's walk will be mainly on a level or slightly down grade. All the way to the Garden Wall, seven miles, the trail is level and easy. Then comes a little climb over the shoulders of the Haystack and Pollack Mountains, followed by descent into the valley of the St. Mary's River. The great glacier on Fusilade Mountain, with its series of cataracts, each seeming more beautiful than the other, the views of Going-To-The-Sun and Almost-A-Dog Mountains from the opposite side to that which is visible from Going-To-The-Sun Camp, and the fact that the last third of the trail runs through a beautiful forest makes this day's tramping a series of delights.

8. From Going-To-The-Sun to Sperry Chalets, seventeen miles, by way of Gunsight Pass, is another of the great scenic trails of this park. It is on this trip that one comes into intimate contact with the largest glacier

in this park—the Blackfeet Glacier—which has been visible from Piegan and Logan Pass Trails but is here at your very feet. Many charming lakes are visible from the trail, among them the beautiful Lake Ellen Wilson.

9. From Sperry to Lake McDonald (Lewis Hotel) is only about seven miles and from this point exit from the park can be made by way of Belton, or one may retrace his steps to Going-To-The-Sun Camp and out by way of St. Mary's Lake, or still a third choice may be found in the possibility of the trail from Lake McDonald to Granite Park Chalets and out by way of Many Glacier Hotel.

In the itinerary given Going-To-The-Sun Camp is visited at least twice, but it may be said of that spot that it is not only the center of all the trail trips, but is without question the most delightful resting place within the park boundaries. Going-To-The-Sun Mountain with its interesting Indian legend, its glacier-capped top and its striking individual-

ity, makes a lasting impression upon the beholder. And the wonderful mountains that are grouped about this part of St. Mary's Lake with their artistic conformations, vividly colored walls and snowy peaks rising right up into the clouds, make not alone a picture but an endless series of pictures. It is pleasing, too, that the authorities have retained the old Indian names for things. Think how much better to call them Red Eagle, Rising Wolf, or Almost-A-Dog, than to have tagged them Smith, Brown or Jones' mountains.

One of the finest short trips from Going-To-The-Sun Camp is that to Sexton Glacier, where the climb is along the shore of Baring Creek over the east shoulder of Going-To-The-Sun Mountain. This affords an excellent opportunity to trace a glacier from its ending back to its source. Or, while you must first walk up and view it in that direction, perhaps it would be better to study it in proper order, from source to terminus. Starting from the ice-field, note the walls of the neighboring

Photo copyright by Kiser Photo Co., Portland, Oregon.

ON THE TRAIL. GLACIER NATIONAL PARK

mountain; how the grinding force of the glacier in ages past has carved them in its progress. Inspect the moraine of shale, small rocks and pebbles. Take up the little stream of water and follow it down to the lake; numerous small streams from different parts of the glacier uniting to form a rivulet which, receiving waters from the hills as it runs along, grows in force and speed until it gains the power to actually cut its way through some rather hard rock and make a gorge whose walls are now moss-grown above the present line where the water rushes and leaps through its confines. Then, as it reaches the base of the mountain, it spreads out and flows as gently and smilingly in the sun as any tame meadow brook in the lowlands.

In an introduction to a Government Circular describing Glacier National Park, the Hon. Franklin K. Lane, Secretary of the Interior, addressing the American people, says: "Uncle Sam asks you to be his guest. He has prepared for you the choice places of

this continent—places of grandeur, beauty and wonder. He has built roads through the deep-cut canyons and beside happy streams, which will carry you into these places in comfort, and has provided lodgings and food in the most distant and inaccessible places that you might enjoy yourself and realize as little as possible the rigors of the pioneer traveler's life. These are for you. They are the playgrounds of the people. To see them is to make more hearty your affection and admiration for America."

CHAPTER X

YELLOWSTONE NATIONAL PARK

"Delightful Wyoming! beneath thy skies,
The happy shepherd swains had nought to do
But feed their flocks on green declivities,
Or skim perchance thy lake with light canoe,
From morn, till evening's sweeter pastime grew.

"Then, where of Indian hills the daylight takes
His leave, how might you the flamingo see
Disporting like a meteor on the lakes—
And playful squirrel on his nut-grown tree,
And every sound of life was full of glee."

THOMAS CAMPBELL.

ENTRANCE to that veritable Fairyland known as Yellowstone National Park may be made by way of Cody, on the east; Gardiner, on the north; or Yellowstone, on the west side. At either point the trains are met by representatives of the Yellowstone Park Transportation Company and the trav-

eler decides whether he will "Travel the Wylie Way," that is, stopping at the Camps along the way, or live in the thoroughly up-to-date hotels. The Camps consist of groups of canvas tents, the locations are well chosen, the meals furnished are very satisfactory and the rates are moderate; the plan is somewhat more economical than that which provides for living at the hotels. The choice is a matter of personal taste. Those who desire, or who can not even temporarily dispense with the hotel comforts, will do well to place themselves under the care of the Yellowstone Transportation and Hotel Company, feeling assured that they will be supplied with all the necessities and many of the luxuries of city life. On the other hand, those who wish a taste of out-of-door living, without any of the labor and anxiety of a real camping trip on their own account, and who prefer to travel under the guidance and care of others at the least expense, will have all their wants properly cared for by the Yellowstone Camping Company. Perhaps the ideal way to

visit the park is to travel with your own private conveyance, be this a pack-horse train or an automobile, camping out at night in places appointed by Government officials, or, arranging to stop over at the hotel or camp stations previously referred to. Here, as in the other parks, all of the advantages of sight-seeing are with the tramper who has time and freedom to explore attractive spots as they develop.

Entering the Park at Gardiner, Montana, the first stopping-place within its domain will be the Mammoth Hot Springs; the distance between these points is but five miles and constitutes a very delightful walk, through the entrancing Gardiner River Canyon. This valley is a narrow one, probably not more than half a mile wide at any point, and the Government built road runs parallel with the Gardiner River, through its center. In some prehistoric day there happened a tremendous earthquake in these parts and the earth's crust broke in a weak line that the geologists call a

"fault." Under the influence of the great upheaval, the two portions were rent widely asunder, some of the lower strata were thrust upward into the gap and, in the settling that followed, a certain amount of overlapping necessarily resulted, causing one side wall to remain considerably elevated above the other. Thus, we find on the west side of the river a range of hills, of which Electric Peak (11,100 feet) is the crowning feature; on the east a lower but more regular mountain ridge; and, in the center, the river that carries off the rain and snow that is annually deposited upon these heights. This end-result of one of Nature's convulsions is the first of the many peculiarly interesting phenomena in this aggregation of novelties to greet the visitor. At every step the river challenges the attention, for it is a characteristic mountain stream of grand proportions; here it murmurs or purrs and sings in sweetly musical tones as it flows over a pebbly bottom, playfully leaps over rocks or dances among the reeds; there it is encroached

upon by the confining banks, or obstructed by boulders, and in wild torrential fashion it dashes onward, carving a bed for itself and forming beautiful cascades; while in its broader reaches, it moves swiftly but majestically on its way to the sea.

At a point about four miles from Gardiner, a subterranean stream, the "Boiling River," which is bringing down water from the Mammoth Hot Springs some two miles higher up, emerges from the rocks, and, emptying on the floor of the valley, flows over into the Gardiner River 100 feet further on. It is an interesting spectacle, for it is actually possible to stand at one point and immerse one hand in the very hot water of the Boiling River and the other in the almost ice-cold water of the Gardiner.

Mammoth Hot Springs is reached in time for lunch and the afternoon is usually spent on the "formation" — a term employed throughout the park in referring to structural characteristics of the earth's surface where the unusual phenomena are to be observed. It is

here that you will be introduced to the first of the active natural phenomena of the park, the Hot Springs, and nowhere else can they be seen to better advantage. Within sight of the hotel, and less than five minutes' walk therefrom, are the beautifully colored "Terraces" formed by these hot springs. The springs total about 70 in number and their calcareous deposits cover an area of 200 acres. The hot water, with gas bubbling up from its hidden source, contains quantities of lime salts in solution and, as it cools in flowing off, the salts are precipitated and constitute the building material of the terraces.

As a demonstrative explanation, imagine a large basin filled with such water and receiving an endless supply through a hole in its bottom; the basin set in the ground, but not exactly level. The excess water will flow over the lowest part of the basin rim, but, as the salts are deposited by precipitation along this side, a new rim of calcareous matter will gradually be formed and grow up to or slightly above the

Photo by Gifford. Reproduced by courtesy of the National Park Service.

HYMEN TERRACE, MAMMOTH HOT SPRINGS, YELLOWSTONE PARK

surface level of the water, when the overflow will naturally be diverted to the opposite side of the basin, because that has become the lower portion. Eventually, if this course continues, the basin will be completely encircled by this formation, the surface of the water will have been steadily lifted to a higher elevation and the formation will spread out and construct a broader base to support the continually growing mass of deposit. It is after this fashion that the "Terraces" have grown; the never ending supply of spring water has deposited its chemical content, in flowing over the sides, and in the course of centuries these massive terraced banks of limestone have reached the height of 1500 feet above the surrounding country. This growth has probably occupied 10,000 years.

But, you will remind me, Carbonate of Lime, the principal solid ingredient in the water, is nearly white while these terraces present all the colors of the rainbow. True; the color is due to extraneous matter. In nearly all bodies of hot water a low form of vegeta-

tion, called Algea, will thrive and it is the light reflected from these small plants that gives the apparent color to the terraces.

Climbing to the upper terrace, Jupiter Spring, the largest and most beautiful on this formation lies before you. It is a goodly sized pool of the clearest crystalline blue and the water appears to be boiling; as a matter of fact, the temperature is far below boiling point and the agitation is really due to the escape of carbonic acid gas. The beautiful color of the water is not produced by its chemical constituents nor does it depend upon reflections from the sky; every large body of pure water is blue, if it is deep, and the shade varies in accordance with the depth of the pool.

The size of the pool and the quantity of water flowing off depend upon the volume and force of the supplying fountain and the shape of the containing bowl. In the course of time, some of the springs have ceased to be active and there remains now only a cone, or column of limestone, or a cave. An example of the

hollow pillar of limestone may be seen on the way to Jupiter Spring; it bears the name of Liberty Cap and has a height of forty feet. Such "Caves" are numerous and one of the larger ones (The Devil's Kitchen) may now be safely entered to a considerable distance, the descent being made by means of ladders. The escape of gas from most of the caves renders them dangerous to careless and inexperienced explorers; many birds and small animals are killed each year at the mouths of these caves, through being overcome by the deadly fumes.

Now, if you follow the water flowing from Jupiter Spring, for instance, down over the terrace formation it will be seen that on the side of the cone that has been dry for a considerable time, some plant life, even small trees, have grown up, but on the side which at present is being overflown, the hot water has killed the trees and shrubs. That some of the trees have attained a considerable size shows that the region immersed changes slowly; for

instance, trees on the south side of the terrace, now receiving a hot bath, must have had a quiet period of at least twenty-five years in which to grow to such size.

The great beauty of the terraces, however, lies in their glorious coloring and not in consideration of their structure. Natural Color Photography is the only hopeful means of conveying to one who has not seen them himself an adequate conception of the delicate beauty of this coloring. There is nothing gaudy about it and artists have found it difficult to depict it without exaggeration. It varies on different days and at different hours of the same day; constantly undergoing change as the light varies in intensity or strikes the terrace at different angles. There are no gorgeous tints nor intensely deep hues, save the red-browns. The basic structure is a true "travertine," suggestive of old ivory, and the colors laid upon that by the growing Algea run the gamut of colors in their lighter shades. As the Algea family has many representatives,

so their colors vary in accordance with varying conditions other than that of light. Those which produce the brightest colors are found to grow in the hottest water, and the waters of lower degrees of heat produce the Algea with darker tints. Consequently, the upper portions of the terraces, where the water is flowing directly from the spring, present the rich creamy shades, from white and yellow to a pale sea-green, while the lower basins and ledges, where the water has cooled in its descent, present the dark yellow, orange and reddish-brown tints. The terraces appear at the best, perhaps, in the late afternoon when the softer sunlight is reflected back with a beauty comparable to a most glorious sunset.

There are a number of side trips that may be taken from Mammoth Hot Springs and it is unfortunate that the majority of visitors to this park fail to avail themselves of this privilege. By following a definite schedule and a beaten path it is possible to "go through" the park in five days, but, in doing so, you

see only the curious things and miss many of the most attractive features. People are so intent on seeing the geysers, hot springs, mud volcanoes, and so forth, that they lose sight entirely of the possibility of taking in at the same time some of the most beautiful scenery to be had anywhere in America. There is a wonderful trip for one day's riding or walking, from this hotel, through the middle canyon of the Gardiner River. The trail leads over the shoulder of Mt. Bunsen, passing the Buffalo corral, and probably encountering a herd of Elk and some Deer on the way, through a wild, forest-clad canyon at the upper end of which is a cataract (Osprey Falls) with a drop of 150 feet, and thence to the Golden Gate Road. In some respects this canyon is as pretty as the canyon of the Yellowstone River and it is a great pity so few people have ever seen it or even heard of its existence. Electric Peak and Mt. Everts are two other mountains that offer themselves to the climber and lover of the beautiful.

From Mammoth Hot Springs to the Upper Geyser Basin, home of "Old Faithful," is a journey of 49 miles now made easily in half a day by the automobile busses. The first few miles are taken slowly because they mean a steady climb uphill, but the scenery by the wayside is quite interesting. A small herd of Buffalo may be seen in the meadows just beyond the Hot Spring Terraces; the principal corral, which embraces the second largest herd of Bison now to be found in the United States, is on a high plateau about 30 miles farther back in the park. This excellent road over Terrace Mountain was constructed by the Army Engineers, under General Hiram Chittenden, and is a monument to his genius and their labors, especially the concrete Viaduct that carries it through the canyon on one side of the mountain where a foothold could not otherwise be obtained.

The first unusual phenomenon encountered is a vast field of travertine rock to which the name of "The Hoodoos" has been given; sev-

eral acres of ground covered with massive blocks of silvery gray rock, tumbled about and piled up in the most confused manner. The altitude is about 7000 feet, nearly 1000 feet higher than the Hot Springs basin, and there are two possible explanations for the presence of these rocks. They may have been thrown down from higher levels by some violent earthquake shock, accompanied by powerful lateral thrusts that smashed them into such irregular shapes. Or, it is possible that this area was once the site of hot springs similar to those now at work lower down, and, having become exhausted, the shell of these immense caverns collapsed under external pressure. There is an Indian legend of some form of cataclysm in this vicinity, with the loss of many lives in the Shoshone tribe, but nothing clear as to the true nature of the action. A portion of the road is cut through this material and the great columns on either side have been named the "Silver Gate." Half a mile further, the Viaduct is crossed and the road winds through the

canyon produced by Glen Creek, with Terrace Mountain on the right hand and Mt. Bunsen on the opposite side of the stream. This narrow way is the "Golden Gate," in consideration of the peculiar color of the rocky walls; a beautiful golden brown shot with yellow and green, due to the growth of a fine moss on the rock surface. At the south end of this canyon is a pretty little waterfall (Rustic Falls), where Glen Creek makes its entrance.

Passing out of this canyon you emerge upon a high, level plateau. In all directions, and at no very great distance, the higher peaks of the Gallatin Range are visible; many of them snow-capped even in summer. Electric Peak, at the extreme north end of this line, is the highest mountain in the Park and is that same peak that seemed so close to the Gardiner entrance. Half way to Norris a halt is made at a platform on the left of the road, to drink from the Apollinaris Spring. The water is very cold and refreshing and it is said that

chemical analysis has shown it to be practically the same in quality and purity as that obtained from the world famous springs of the same name in Europe. The principal difference observed by the tourist is that whereas the Foreign Government bottles, sells and derives a large revenue from its natural springs, the United States Government wastefully neglects such natural resources and buys foreign waters at a fancy price while her own free supply runs as freely into the sea.

Two miles beyond this you will pass a very remarkable sight; the Obsidian Cliffs, a mountain of shiny black glass. Obsidian is glass of volcanic origin and it is interesting to consider the degree of heat that must have been necessary and the force required to produce and throw up a mountain of such substance. It was formerly used by the Indians for arrow heads, because of its hardness, and this was one of the few districts in the park they were accustomed to visit in olden times. The road engineers met with great difficulty in passing

this point, it being impossible to break up the glass rock with any ordinary implements, and they finally resorted to the novel method of building fires on it to heat it up and then throwing streams of cold water on the heated portions; the sudden changes caused it to crack.

Twin Lakes, two very pretty pools, next attract attention because of a difference in color, in spite of the fact that they are in close apposition and are joined together by a small canal. One presents a pale grayish-green hue while the other is much darker, rather a bluish tint; the difference being due undoubtedly to the greater depth of the latter. The Devil's Frying Pan is a peculiar formation—about an acre of this travertine crust, broken in many places, in which numerous hot springs are bubbling—deriving its name from the constant stewing and sizzling of the water through and over the crust.

At Norris Geyser Basin you will meet your first Geyser and become acquainted with what

is perhaps the most marvelous of the active phenomena of this park. In a sense, the Hot Springs, Hot Pools, Paint Pots, Steam Vents and Geysers are all alike—the same natural elements, water and heat, are the principal factors—but how differently they appear and how differently these elements act under the varying conditions. The hot springs and their outgrowth, the terraces, have already been explained and the action of a geyser and the process of natural paint mixing will be, but it may be better to leave these demonstrations until the most perfect specimens of each are met with in the course of this trip.

Norris Geyser Basin consists of a vast area, several hundred acres in extent, of what looks like level white sandstone dotted all over with bubbling hot pools and springs, with here and there, at varying intervals, eruptive geysers of different sizes and power. The surface layer, or crust of the "formation," is apparently very thin and a board walk has been laid over it from the hotel to the road at the far side.

Walking over this you can not help feeling that the formation is like an immense stewing pie with a thin, crisp crust. The hot water is boiling up under and beside the boards, spirting up in little jets in some places. A cane may easily be thrust through the crust in spots, and it is unsafe to step off the boards except under the guidance of one familiar with local conditions. The color of the many pools is of that peculiar shade difficult to say whether it is pale blue or pale green, and their beauty is in some instances enhanced by a border of old rose, or of deep orange hue, produced by the deposit around the rim of chemical substances or the growth of algea; where copper and iron salts are abundant in the water the pool margins and the beds of the rivulets running from them present brilliant dark green or red-brown colors.

Within a few feet of the board walk is one of the most interesting of all the geysers in the park—Old Constant; at intervals of five minutes the eruptions take place, the water in the

pool will begin to show disturbance, there is an appearance of boiling near the surface, and suddenly, a column of water is thrown up into the air, the fountain action lasting about one minute and being followed by another period of quiescence. The constancy with which the process is repeated explains the origin of the name given this geyser. Further on is another geyser bearing the name of the Minute Man, but in this case, the geyser has not lived up to expectations; after many years of a regular course of life it has recently changed its habits and, instead of acting at minute intervals it now breaks forth at very irregular periods and ejects but a small stream of water in comparison with its old record.

At the end of the board walk a series of steps leads up to the road and in the bank, just beside this ladder and platform arrangement, is the black mouth of a dark cavern from which steam is emitted with a terrific roaring sound like the exhaust of a heavy railroad engine. In fact, the Black Growler is heard

long before it can be seen and the first impression produced by the noise is that there must be a train somewhere near. The Steam Vent, of which the Black Growler is a perfect example, is but another type of the general species of natural eruptive forces. In the Hot Pools and Springs the water is sent to the surface with but little force; in the Geysers, a volume of water is ejected forcibly by a sudden outburst of accumulated power; the Mud Volcanoes exhibit a constant or repeated explosion of force acting upon a mixture of earth and water; the Paint Pots show the ebullition of heat through a clay mass of putty-like consistency; and the Steam Vent is simply escaping force in the form of heat that has nothing to resist it, there being no water nor mud to throw out.

On the "Formation" at Norris Geyser Basin conditions change frequently, it is said by some, but there are probably no very pronounced changes save over a long period of years. The Steam Vent of today may be the

exhausted Geyser of some distant yesterday, the supply of water having failed; a Geyser that has been acting with perfect regularity for numberless years, like the Minute Man, may suddenly change its habits because of a diminution of its underground supply of water or the altering of heat forces beneath it, or both factors playing a part; a Geyser may become exhausted, remain quiet for a considerable period, and then unexpectedly resume activity; new Geysers, new Vents, and new Springs appear as old ones disappear or become altered; and all this is but the eternal change attendant upon evolution.

The effect of walking across this formation for the first time and of considering its marvelous construction and activity is indescribable. Keeping in mind the plain, visible, uncontrovertible scientific facts, thoughts will dwell upon the character of the invisible and unknown influence behind it all, and it is difficult to suppress entirely a superstitious feeling. You may recall some of the sermons that

were popular a decade or so ago, in which the fiery furnace of Hell was so eloquently described that the odor of brimstone was almost perceptible. What would one of those old-time preachers, with his ideas of future punishment, think of this region? Would it be to him an ocular demonstration of his theory of subterranean horrors? It must be confessed there is enough of the suggestive element present to justify him in thoughtful consideration. The air is redolent with the odor of sulphur, the earth is warm to the touch, there is plenty of evidence of an extreme and inexhaustible supply of heat somewhere below, the region round about is arid and forbidding in appearance, trees are the mere ghosts of trees for their foliage has been destroyed wherever stricken by the heat and acid sulphur fumes; in fact, the entire scene is one of weird, mysterious and unnatural devastation. Yellowstone has been spoken of as a Fairyland. It is that in a sense, but not in the same sense you would employ the term in speaking of

Yosemite, for instance; it is rather a weirdness, a sense of something unnatural or supernatural, that is uppermost.

The drive of 20 miles from Norris to the Lower Geyser Basin (Old Fountain Hotel) is through one of the most attractive portions of the Park. For the first 10 miles the road runs parallel with the Gibbon River and for half of that distance between the walls of the Gibbon Canyon; characterized by many remarkably beautiful views. Numerous bridges permit the frequent crossing of this rapidly flowing stream as the road winds through the canyon, occupying first one then the other bank of the river, as necessity requires. At the end of the canyon, after passing the Gibbon Falls, the road leads over a long stretch of rolling, sandy country covered with a dense growth of lodge-pole pine. The descent on the other side of the mountain is into the valley of the Firehole River, and one of its tributaries, Nez Percé Creek, is forded on the approach to the Fountain Hotel. All these streams abound in

Eastern Brook, Loch Levin and Rainbow trout.

The chief attractions of the Lower Geyser Basin are the Mammoth Paint Pots, the Old Fountain Geyser and a curious phenomenon to be observed at Firehole Lake—the appearance of flames under water. The Paint Pots at this point vie in importance with those to be seen later at Thumb Station, on the shore of Yellowstone Lake; at times the colors seem less vivid and the stewing less active. The Fountain Geyser is far less interesting now than many others; once noted for the large quantities of water thrown out and the height to which it was thrown, it has in recent years become quite erratic. Observation of flames under the water of Firehole Lake depends somewhat upon atmospheric conditions and to some extent upon securing an advantageous position. The visit of inspection is usually made in the early morning by walking to the western end of the lake. The lake is fed by a deep-seated spring, located near the eastern

end, and the bubbles of hot air arising through the clear water tend to amalgamate, like raindrops coursing down a pane of glass, into large globules. If there is no wind to disturb the surface of the water, and the sunlight falls at the proper angle upon the submerged balloon of gas, the picture is that of an ascending flame.

The country between Fountain and the Old Faithful Inn, at the far end of the Upper Geyser Basin, a distance of 9 miles, is in reality a continuous area of geyser and hot spring formation. It would be superfluous to mention them all by name, but a few deserve special consideration. The Great Fountain Geyser, because of its pretty pool and the delicate tracery of its formation; the White Dome, an immense, dome-shaped cone; the Pink Cone, so-called because of its color; and Excelsior Geyser, now inactive but reputed to have been the largest geyser in the park. The very names — Prismatic Lake, Turquoise Spring, Sunset Lake, Rainbow, Emerald and

Sapphire Pools, and Biscuit Basin—signify the characteristics or attributes that have made some of the pools noteworthy. The same may be said of Castle, Sponge, Grotto, Bee-Hive and many other geysers. Those which stand out distinctively enough to require special consideration are: Turquoise Spring, Prismatic Lake, Morning Glory Pool and Old Faithful Geyser.

The Morning Glory, if seen under favorable circumstances, commands admiration. The circumference of the pool is marked by indentations of such character as to suggest, together with the convolvulus formation of the depth, the open morning glory and, in the bright light of a clear day the pronounced blue of the deep central portion fades off gradually into a pale green blue of the shallower water under the ledges of the marginal crust. If the day chances to be a cold one and condensed steam clouds hang over these springs and pools the color effect is decidedly marred and the many visitors on such days get the idea that

they have been misinformed by friends and lecturers as to the beauty of the color scheme. It is true that some picture postcards and some lantern slides exhibited have grossly exaggerated the color of these waters as well as the balance of the scenery, but it is equally true that under proper conditions of light and temperature the springs and pools present a series of fascinating colors. Two of the most beautiful things to be seen in Yellowstone Park are the Turquoise Spring and Prismatic Lake. There is no possibility of exaggerating the beauty or the perfection of coloring in either of these bodies of water. The former is a large pool of deep water with a rich turquoise color and a border of old rose. Prismatic Lake is an expansive sheet of water, rather shallow, I believe, at least it is for some distance from its shore line, with a most remarkable play of colors upon its surface, really representing most of the tints of the spectrum. So intense are some of these colors that as the wind blows the steam clouds over the surface,

and the color is reflected back into these clouds, the steam itself appears to be also colored.

Old Faithful is all that its name implies. Mr. Edward Frank Allen, the editor of *TRAVEL*, has said of it: "Other geysers may be more powerful, others may throw their water higher, others may have more beautiful craters, but Old Faithful has some of each of these qualities and, in addition, it plays often and with regularity. It had the honor of welcoming the first explorer, and never since that day has it failed any tourist that cared to look at it." With unfailing regularity, almost the precision of clock work, the eruptions of this geyser recur at intervals of seventy minutes and this rhythmic repetition has probably persisted for many centuries. Whether seen in action at midday, in the late afternoon when the rays of a setting sun make rainbows in its cloud of mist, or in the light of a full moon, it is an interesting and fascinating sight. But it is most effective perhaps at night, when under the added charm of moonlight and mys-

tery, the peculiar romance of the performance harmonizes so perfectly with the weird surroundings.

The nature and activities of Hot Springs, Hot Pools, Steam Vents, Mud Volcanoes, Paint Pots, and Terrace Formations have been explained as evidences of different degrees of subterranean heat acting upon different kinds and sources of subterranean water supplies under varying conditions, and the belief stated that geysers belong also to this group of phenomena. The only one of these performances that is at all difficult to comprehend is the geyser action, and even scientists have not been entirely in accord in their theoretic explanations of this. It would be confusing to dwell upon the slight differences of opinion existing among geologists concerning the exact modus operandi of a geyser so, for the sake of clearness as well as brevity, let us consider in the simplest terms the most generally accepted theory of the construction and action of these marvels of nature, of which

By Haynes, St. Paul.

OLD FAITHFUL GEYSER

Old Faithful is the most perfect of the world's known examples.

In the first place, there are certain characteristics essential to all geysers. Almost the first noticeable thing on approaching a geyser basin is that it is composed of a different substance from that which made up the Terrace Formations. In the latter case the basic substance was a soft, chalky white limestone; whereas the geyser basic formation is a hard, flint-like greyish substance. Instead of soft limestone it consists of Silicon, the chemical basis of sand. It is essential that it should be a hard, resistant substance because the geyser wall must sustain a strain of great force. Nearly all geysers have a cone-shaped projection above the surface of the earth, with a crater opening at the top. It is not necessary that the cone should be of any definite size nor that it should be exactly conical; there are geysers with large open mouths and crater rims that are not much raised above the surface, but, even they comply with the general rule, if ex-

amined closely, and vary only in the size of the "cone" rather than in its principle. The third, and final, essential is a tube or set of tubular prolongations extending down into the earth. These tubes receive the water supply of the geyser and reach down to the source of heat that produces the geyser action.

According to the Bunsen theory, the tubes receive their water supply from some subterranean source and the action of heat upon the deep portions of these tubes causes the water to boil at the point acted upon. The boiling point of water is higher below the earth's surface than at or above that level, increasing with the greater depth. As the water reaches its boiling point, the steam formed attempts to escape through the upper layers of cooler water. Though it loses little or nothing in heat quality as it rises, because of the steadily diminishing boiling point, much of it is absorbed until, in fact, the upper layers become saturated. Then, the continually forming steam begins to accumulate below. As its

power increases, it endeavors to lift the weight of water above it, just as steam in an engine boiler affects the safety valve, and it ultimately begins to force some of the water from the mouth of the crater. At first there is a slow outflow, but as this escaping water only diminishes the weight of the column of water in the tube, and the power is increasing, the latter gains impetus and is soon able to force the remaining water out in a jet that may leap a considerable distance into the air. Thus Old Faithful, in the beginning of an eruption, throws its water only three or four feet, but soon it spouts more actively and ultimately reaches a height of 150 feet.

In the case of geysers like Old Faithful, whose eruptions recur with regular periodicity, the existence of an underground source of water supply, perhaps a lake, must be assumed, with an opening of definite size into the geyser tube to permit the intake of the required amount of water within a definite time, so that for thousands of years it has dis-

charged 250,000 gallons of water approximately every hour. The smaller and more irregularly acting geysers have a less constant source of supply, being dependent probably upon springs or upon seepage from the surface through cracks into the tubes.

Not the least interesting feature of a trip through Yellowstone Park is the native wild animal life and it is a subject for congratulation that the United States has adopted such active measures here, and in the other national parks, to preserve and protect the animals and birds unmolested. The already large herd of buffalo is rapidly increasing with each passing year. This noble animal, that once roamed in countless thousands over our western prairies, was threatened with extinction but a few years ago. The Deer and Elk are numbered by the thousand and even the hurried tourist in his rapid course through the park is certain to see one or more daily. Black and Brown Bears, occasionally the Grizzly, will be seen in the region of Old Faithful Inn or the Lake Hotel;

the former have become to some extent scavengers of the wood and haunt the garbage pile near the large hostelries. Some of them are sufficiently tame to approach and take sugar or other edibles from your hand. Now and then an aggressive marauder of the species will prove less docile and it is always dangerous to get between a mother bear and her cubs. Usually there is a guard on duty at the sites most frequented by the bears, to protect the over inquisitive tourist, but it is well to remember the protective care of the mother for her young in case you unexpectedly encounter a bear along any of the paths or roads of these mountains.

The birds of the Park embrace the Osprey, chiefly seen about the high peaks; Pelicans, Sea Gulls, Geese and Ducks, about Lakes Yellowstone, Lewis and Shoshone; Grouse, Pheasants, Blue Jays, Robins, Magpies, Larks and Blackbirds.

Fish abound in all the streams and can actually be seen from the passing coach in Yellow-

stone River. In Clear Creek and Columbine Creek, two tributaries of Lake Yellowstone, trout are so thick and the water so clear that you can stand on the bank and watch every maneuver of the fish as he plays for the fly or bait cast before him. Fishing is the only form of hunting permitted within the park precincts; the shooting or trapping of birds or animals is strictly forbidden. The Fish Commission has stocked Lake Yellowstone and its neighboring creeks with yellow speckled cutthroat trout and the mere tyro can catch his allowance in those streams any day within two hours. The Madison River and other streams on the western side of the Park produce the rainbow and Loch Levin varieties of trout; rather better sport because they are gamer fighters. Big game may be hunted in the mountains bordering upon the Park and there are several popular resorts, such as Sheffield's to the south, in the Jackson Hole country, that are well known to the sportsmen.

In the course of the drive from Upper Geyser Basin to the Thumb of Yellowstone Lake (the name Thumb having been given to this portion of the Lake because the conformation of the shore line here resembles the thumb in its relation to the hand, as represented by the main body of the Lake) the Continental Divide has to be crossed twice, the altitude in each instance being something over 8200 feet. The water from some small lakes in this region flows off in rivulets to the eastward and others to the westward slope, while a few, of which Lake Isa is an example, may in the springtime drain in both directions, part of the water finding its way to the broad Atlantic while another portion can be traced to the Pacific Ocean. Lake Isa can be seen from the road in passing and in early summer is covered with water lilies.

The first part of this drive is beside the Firehole River and a stop is usually made just a few miles from Old Faithful to see the Keppler Cascades, from a platform that has

been constructed out over the stream. There are numerous lakes within the domain of Yellowstone Park and the two largest, Lake Shoshone and Lake Yellowstone, are each in turn to be seen from high points of the road on this day's riding. The former is viewed from the top of the divide and though it is twenty miles distant it makes a charming picture, so wonderful is its setting in the high mountains. Yellowstone Lake is a beautiful body of water and many are tempted to leave the coaches at Thumb Station and to break the monotony of the journey by a boat trip across the Lake to the Yellowstone Lake Hotel. It is a pleasant sixteen miles' sail; as against a nineteen mile ride around the head of the Lake, over a road that presents few points of special interest and is often rather dusty.

The Lake shore at Thumb has a diversified character and presents several special features. In the first place, the Paint Pots at this point appear to be more active than those observed at Fountain. In an area of perhaps 100 feet

Copyright by Haynes, St. Paul.

BLACK AND BROWN BEARS IN YELLOWSTONE PARK

square is a mass of so-called paint, a clay substance of about the consistency of a well-mixed white lead, or a well-kneaded dough, and the entire bed is in constant motion, heaving mildly like the billows of the sea. In the bright sunlight the paint varies in color from drab to a pale rose tint. Every few seconds, from some part of the bed, a small mass will be thrown up into the air to the height of two or three feet by the ebullitionary force from below. The term "paint pots" was a well chosen simile, for the mass strikingly resembles a very thick paint and the action is typical of the contents being mixed or stirred by some unseen power. Between the paint pot enclosure and the shore there are a few small springs whose outflow spreads over the intervening soil, on its way to the Lake, depositing its chemical substances and encouraging the growth of algeous matter; producing a bit of prettily colored beach similar to the formation on the banks of the Firehole River. Scarcely a hundred yards away and directly on the edge of the Lake

is an extinct geyser mound, called the Fishing Cone. While it is no longer subject to eruptions, it still contains steaming hot water and it is a fact that standing beside it you may catch a trout in the lake and, swinging about, dip your fish into the cone crater and, after a few moments, remove the cooked fish from your hook.

The road turns abruptly at Thumb and runs in a northerly direction, for the return towards Gardiner commences at this point. The shore of the Lake is followed for about five miles and then, as another shoulder of the mountain has to be crossed, the climb back to an altitude of 8000 feet must be made. There are many pretty views of the neighboring mountains and glimpses of the Lake through vistas in the forest. The trees are principally Indian or Lodge-pole Pine, growing in dense forest formation.

Of all the places in the park that might entice one to stop over for a time, none seems more attractive than the hotel at Lake Station.

Here is an excellent hotel, of the old continental style of architecture, on the edge of a beautiful lake dotted with islands and surrounded by snow-capped mountains. Yellowstone Lake is the highest body of water of its size in the world; it has an elevation of 7700 feet, is ten miles wide and nearly thirty miles long. The possibility of boating upon this Lake, of explorations into the numerous creeks that supply it, of tramps around its shore line by trails, the fishing in its waters, and the marvelously beautiful views obtainable from any point in the vicinity make this a spot of unending delights. And, even more, it happens to be a good central point from which to make excursions to interesting regions outside the usual tour of the park. For instance, from here you can make the trip to the Jackson Hole country and, if the time can be spared, this could certainly be included in any trip through Yellowstone. From Lake to Thumb and then south, the road runs beside the Lewis River and Lake to Jackson Lake, through one

of the most beautiful regions imaginable. The open fields and forest floors are covered by acres of the most wonderful flowers; extensive patches of Paint Brush of the deepest red, Forget-me-nots, Lupine, Bluebells, and many others according to the season. And then, arrived at Sheffield's Lodge, outside the park, to rest at the foot of the Grand Tetons; that of itself is worth all of the time and money expended upon the trip. To camp anywhere in this portion of the park is a supreme delight.

The short ride from Lake Station to the Grand Canyon of the Yellowstone is also through a fine country. There are very few curiosities to attract attention; perhaps only two that require mention. The Mud Volcano is considered by many to be one of the most curious and interesting of the phenomena in the park. It may be best described by comparison with an immense bowl hollowed out of the hillside, partially filled with black mud and having a large opening in the distal side near the bottom. This opening is in fact the

mouth of a steam vent and as the steam and hot water is spasmodically injected into the bowl, the mud is thrown up and towards its opposite side; naturally, it slops back and this performance is constantly repeated. The Grotto Spring, or the Dragon's Mouth, as it is more appropriately named, is a fissure in the granite rock which has been rendered picturesque by the green coloring of the rocks surrounding it and from which there issues at brief intervals a small jet of hot water and steam. The water comes from a small spring in the rocks and is ejected by the steam in the form of a heated spray. You can approach closely and look into the grotto at the risk of nothing worse than a sprinkling of hot water. It requires no great stretch of the imagination to conceive of it as a dragon.

The ride across Hayden Valley, which is a charming meadow plateau, and beside the Yellowstone River is one continuous delight. The road follows the circuitous route of the river, the water of which is as clear as crystal,

and even from the coach you can see the trout swimming gracefully or splashing about in their efforts to catch flies or water bugs. When the Chittenden Bridge is reached, about where the cascades of the river begin, the main road is left for a visit to Artist's Point, so that you may have your first view of the great Yellowstone Falls from that most impressive point. It was this spot that Thomas Moran chose from which to paint his celebrated picture that now hangs in the Capitol building at Washington. In a pamphlet recently issued by the Government is the following description of the view from Inspiration Point, but it serves equally well to illustrate the beauty of the artist's point of view: "Looking a thousand feet almost vertically down upon the foaming Yellowstone River, and southward three miles to the great Falls, the hushed observer sees spread before him the most glorious kaleidoscope of color he will ever see in nature. The steep slopes are inconceivably carved by the frost and erosion of the ages.

Sometimes they lay in straight lines at easy angles, from which jut high rocky prominences. Sometimes they seem carved from the side walls. Here and there jagged, rocky needles rise perpendicularly like Gothic spires. And the whole is colored perfectly and vividly as the field of a kaleidoscope, streaked and spotted and stratified in every shade from the deepest orange to the faintest lemon, from deep carmine through all the brick reds to the softest pinks, from black through all the grays and pearls to glistening white. The greens are furnished by the dark pines above, the lighter shades a growth caught here and there in soft masses on the gentler slopes and the foaming greens of the plunging river so far below. The blues, ever changing, are found in the dome of the sky overhead."

General Chittenden, who probably did more than any other one man to make the park what it is today and whose book, entitled, "Yellowstone National Park," is a masterpiece of descriptive literature, says of the Canyon:

"There are three distinct features which unite their peculiar glories to enhance the beauty of this Canyon. These are the Canyon itself, the waterfall at its head, and the river below."

It is the volcanic rock through which the river has cut its way that gives the Grand Canyon its distinctive character. The hue has no existence which cannot be found there. "Hung up and let down and spread abroad are all the colors of the land, sea and sky," says Talmadge, without hyperbole. From the dark, forest-bordered brink, the sides descend for the most part with the natural slope of the loose rock, but frequently broken by vertical ledges and isolated pinnacles, which give a castellated and romantic air to the whole. Eagles build their nests here, and soar midway through the vast chasm, far below the beholder. The more prominent of the projecting ledges cause many turns in the course of the Canyon, and give numerous vantage places for sight-seeing. *Lookout Point* is one of these, half a mile below the Lower Falls. *Inspiration Point,* some

Photo by Gifford. Reproduced by courtesy of National Park Service.

GRAND CANYON AND GREAT FALLS OF THE YELLOWSTONE

two miles farther down, is another. The gorgeous coloring of the Canyon walls does not extend through its entire length of twenty miles. In the lower portion, the forests have crept well down to the water's edge. Still, it is everywhere an extremely beautiful and impressive sight. Along the bottom of the Canyon, numerous steam vents can be seen, one of which, it is said, exhibits geyseric action.

The *Lower Falls* of the Yellowstone must be placed in the front rank of similar phenomena. It carries not one-twentieth of the water of Niagara, but Niagara is in no single part so beautiful. Its descent is very regular, slightly broken by a point of rock on the right bank. A third of the Fall is hidden behind the vast cloud of spray which forever conceals the mad play of the waters beneath; but the mighty turmoil of that recess in the rocks may be judged from the deep-toned thunder which rises in ceaseless cadence and jars the air for miles around.

To many visitors, the stream far down in the bottom of the Canyon is the crowning beauty of the whole scene. It is so distant that its rapid course is apparently diminished to the gentlest movement, and its continuous roar to the subdued murmur of the pine forests. Its winding, hide-and-seek course, its dark surface where the shadows cover it, its bright limpid green under the play of the sunlight, its ever recurring foamy white patches, and particularly its display of life where all around is silent and motionless, make it a thing of entrancing beauty to all who behold it.

It is not strange that this Canyon has been a theme for writer, painter and photographer from the day of its discovery to the present time. But at first thought it is strange that all attempts to portray its beauties are less satisfactory than those pertaining to any other feature of the park. The artist Moran acknowledged that "its beautiful tints were beyond the reach of human art." And General Sherman said of this artist's celebrated effort, "The

painting by Moran in the Capitol is good, but painting and words are unequal to the subject." "In photography, the number of pictures by professional and amateur artists that have been made of this Canyon is prodigious, but photography can only produce the form; it is powerless in the presence of such an array of colors as here exists." The paragraph just quoted was written before the day when the photographing of objects in their true colors had become an accomplished fact. Now this marvelous scene has been taken by natural color photography; every shade of color permanently fixed on the photographic plate exactly as they appeared to the eye of the observer.

In refraining from an attempt to give a description of the Canyon I have been willing to join Folsom, who first wrote of it, that "so far as I am concerned, language is entirely inadequate to convey a just conception of the awful grandeur and sublimity of this masterpiece of nature's handiwork."

Many of the published descriptions have been gross exaggerations, both as regards the color of the rocks and general beauty of the Canyon. Those quoted here seem to be entirely fair and to present about as accurate a word picture as can be honestly composed. This Canyon is another spot in Yellowstone Park where one might profitably spend an indefinite vacation period. The Hot Spring region and the Geyser Basins present unusual and interesting phenomena but such freak features of nature, while impressive in their beauty or marvelous activities, do not carry the appeal that makes one desire to linger in the vicinity. At the Canyon it is different and the effect is noticeable upon the great majority of tourists. The creature comforts offered by one of the best hotels in the world (and the establishment of such perfect hotel conditions in such a place is not the least of the park wonders), the stimulating climatic influence of the high altitude, the tranquil, peaceful charm of the upper portion of the River, the majesty and dignity of the cata-

ract, the colorful beauty of the Canyon walls under changing light at different hours of the day, the restful, health-giving delight of the whole, produce a sense of contentment and happiness almost incomprehensible.

Exit from Fairyland, as exemplified in Yellowstone Park, may be made either by returning from this point to Gardiner, the point of entrance used in this description, or by way of Cody, on the eastern boundary. If the first way be chosen, it is well to take the trip over Mt. Washburn; this will be particularly worth while if you happen to be there in the latter part of July, when the wild flowers are in perfection of bloom. Many will prefer, however, going out by the Cody route. The climax of a Park trip having been reached at the Canyon, the last day's journey in going out by Gardiner, is a gradual letting down once more to the ordinary fact of life. The Cody route, on the other hand, still holds some thrills even for the satisfied traveler. It is not a matter for comparison; it is simply different

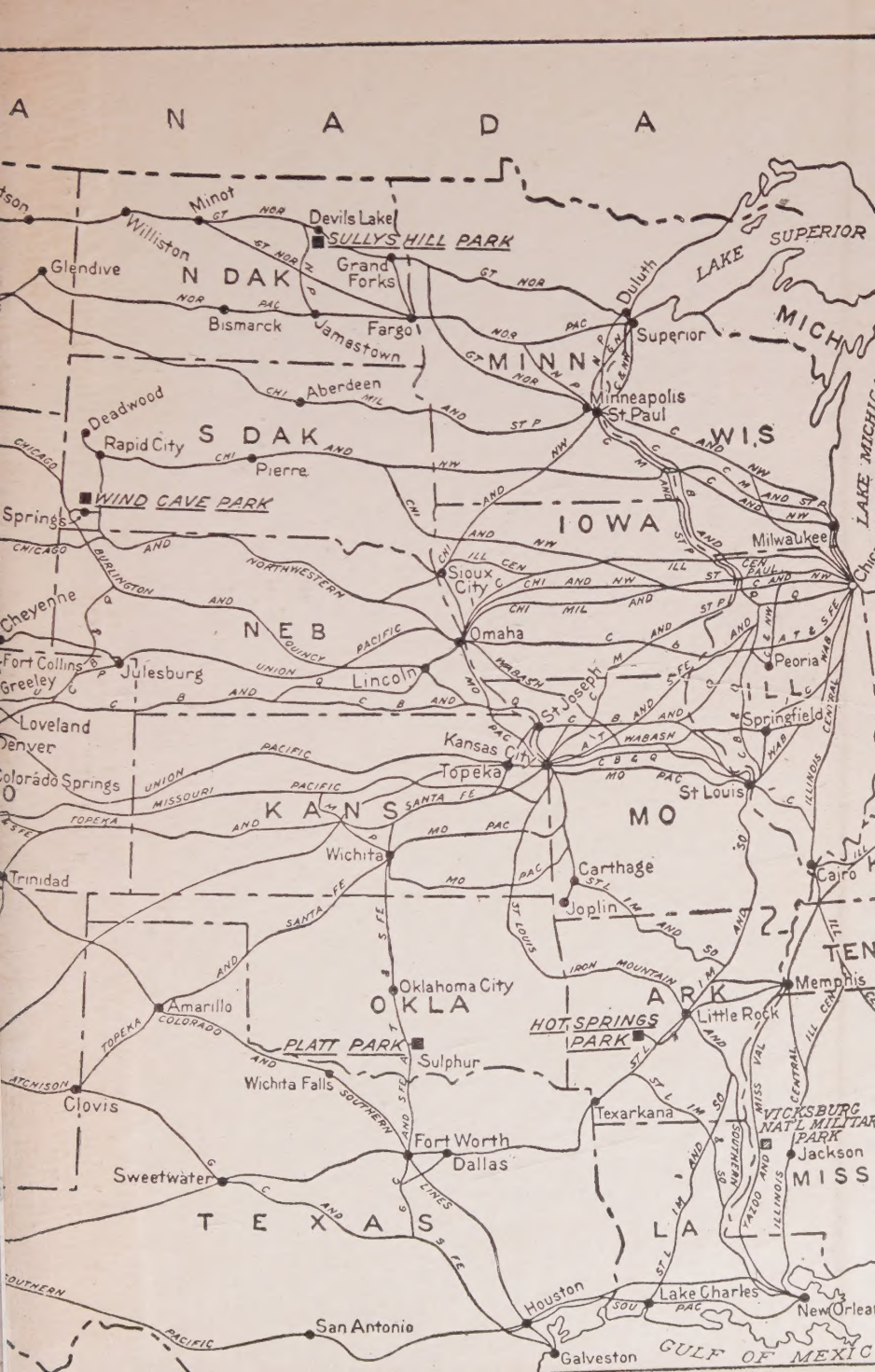
from anything else yet seen. The road is over Sylvan Pass and through Shoshone Canyon and every mile of it is beautiful. Leaving the main road, between the Canyon and the Lake, the way is first through a mountain meadow land and then climbs to an altitude of 9500 feet on the crest of the ridge. Sylvan Lake is passed, reluctantly, for you would naturally desire to tarry in the vicinity of such a retreat, and then the road winds down again into the Canyon of the Shoshone River.

The upper portion of the Shoshone Canyon is walled in by red sandstone rocks that time and the elements have played queer pranks with. For a distance of 10 miles the guide is kept busy pointing out to you fancied resemblances in the rocks to well known or historic characters, or to the commoner animals. The hunting lodge of the late "Buffalo Bill," after whom the city of Cody is named, is passed and the lower part of the canyon is found to be a wild, rugged granite walled gorge. An artificial lake has been formed by the construc-

tion of a dam in the river, a lake having a surface of 10 square miles and a depth, at some points, of 325 feet, so you can imagine the vast quantity of water held in reserve for irrigation purposes. The ride through this canyon and on to Cody is thrillingly beautiful.

Those who enter the Park from the east, at Cody, follow the same circle trip but visit the places in different order; that is, they spend the first day at the Canyon of the Yellowstone, the second on the way to Mammoth Hot Springs, and then proceed as described for the trip from that point around to Yellowstone Lake Station. Likewise, those entering from the west, at Yellowstone Station, make their visit to the Lower Geyser Basin first and then proceed around the circle, taking Old Faithful, Yellowstone Lake, the Canyon and so forth to Mammoth Hot Springs and out again at Yellowstone.

NATIONAL PARKS
AND
PRINCIPAL RAILROAD CONNECTIONS


CANADA
Minot
Devils Lake
SULLYS HILL PARK
Williston
Glendive
N DAK
Grand Forks
Bismarck
Jamestown
Fargo
Duluth
LAKE SUPERIOR
Superior
MINN
Minneapolis
St Paul
Deadwood
Aberdeen
Rapid City
S DAK
Pierre
WIS
WIND CAVE PARK
Springs
IOWA
Milwaukee
Sioux City
Cheyenne
NEB
Omaha
Fort Collins
Julesburg
Greeley
Lincoln
Peoria
ILL
Loveland
Denver
St Joseph
Springfield
Kansas City
Colorado Springs
Topeka
St Louis
KANS
MO
Wichita
Carthage
Cairo
Trinidad
Joplin
Oklahoma City
Memphis
Amarillo
OKLA
ARK
Little Rock
HOT SPRINGS PARK
PLATT PARK
Sulphur
Wichita Falls
Clovis
Texarkana
VICKSBURG NAT'L MILITARY PARK
Jackson
Fort Worth
Dallas
Sweetwater
MISS
TEXAS
LA
Houston
Lake Charles
New Orlean
San Antonio
Galveston
GULF OF MEXIC